M-3
SSDC
833/27

PRINCIPLES

OF

UNANI MEDICINE

MEDICINE LIBRARY
S201
MAR 1944
F481

DR. HAKIM AHMED HUSAIN L.I.M.,

PUBLISHER
S. HUSAIN
7, PERUMAL CHETTY STREET,
VEPERY, MADRAS.
(INDIA.)

Rs. 3

2257

PRINCIPLES
OF
UNANI MEDICINE

DR. HAKIM AHMED HUSAIN L.I.M.,
Assistant Lecturer, Government School of Indian Medicine,
Fellow of the Academy of Indian Medicine and Member,
Eastern Medical Association of Southern India, Madras.

PUBLISHER
S. HUSAIN
7, PERUMAL CHETTY STREET,
VEPERY, MADRAS.
(INDIA.)

Rs. 3

5201

DEDICATED

TO

Alijanab

Jalal Mohamed Ibrahim Sahib Bahadur

(Partner, Messrs. Roshan N. M. A. Carim Oomer & Co.)

DUE TO WHOSE HELP THIS HUMBLE BEGINNING OF A NEW PHASE OF THE REVIVAL OF UNANI MEDICINE HAS COMMENCED.

FOREWORD

Whatever the Muslims took up they developed and embellished. The Unani system of Medicine, Greek in origin, as its name indicates, was elaborated and enriched by Muslim Scientists and Doctors to a degree undreamt of by their Greek ancestors. It may be truly said that these Muslim savants were really the fore-runners of the later systems of cure that came in vogue. The Unani system has not made much progress after the 14th century.

In India the fall of the Moghul Empire gave the death-blow for the progress of this system. But thanks to the efforts of the late Hakim Ajmal Khan Saheb, who has been rightly styled as *Masih-ul-Mulk*—the life giver of the country—the system is beginning to come into its former glory. A good deal of research work has been accomplished and able treatises have been written on this system.

One such attempt is the book under review. Dr. Ahmed Husain has given in simple and concise form the principles of the Unani Medicine and by writing this book has done a real service in popularising the system. I congratulate him on his work. I sincerely hope that the generous public will encourage him by patronising the work largely.

'Akther Manzil'
Baswangudi, Bangalore.
20—8—1940.

S. ABDUL WAJID,
Revenue and Muzroi Commissioner,
Mysore.

PREFACE

It is a truism to say that man, at some stage or other in his life, has to contact one disease or another. In order that he may not fall an easy victim to these 'usurpers of his happiness,' Man, in every part of the globe has contrived means to counteract their bad effects. Among the Indian methods of treatment, Ayurvedic, Siddha and Unani stand supreme.

Unani medicine has always been held in great regard by all classes of medicalmen for its proved utility and excellence of theory which are the basis of Modern Medicine. On the insistence of my students and friends in the profession I had to write this small book in Englsih dealing with the principles of Unani Medicine. To publish a translation of any standard book will amount to making its grasp impossible for the beginner or the busy practitioner. In view of this and to meet the requirements, this concise book has been written, with charts wherever necessary.

This being my first attempt a variety of mistakes might have crept in. I shall gratefully acknowledge corrections or constructive suggestions which the readers may be pleased to send.

I have to gratefully express my thanks to all authors whose works I have read in bringing out this volume. My sincere thanks are due to Jalal Mohamed Ibrahim Sahib who has permitted the dedication of the book to him; to Ruknul-Mulk S. Abdul Wajid Sahib who has kindly written the Foreward; to Moulvi Syed Abdul Wahab Sahib Bokhari, M.A., L.T., Principal Islamia College, Vanyambadi; A. Wahab Shareef Sahib and G. Ahmed Ali Sahib, I owe a great deal for their help at the various stages in the preparation of the book which was more essential than the labour of writing. I am highly indebted to the management of the *Deccan Times Press* who spared no pains to give all exquisite feature to this publication.

Madras.
9—10—1942.

AHMED HUSAIN.

CONTENTS

PART ONE

Page

SECTION I

The Essential Factors 11

Chapter

I Units 11
II Temperaments 13
III Humours 16
IV Organs 19
V Souls 20
VI Powers 21
VII Functions 25

SECTION II

States of the Body 25

I Temperamental Changes 26
II Structural Changes 26
III Changes in Integrity 28

SECTION III

Causes 31

I Air 34
II Food and Drink 37
III Physical or Bodily Work and Rest ... 40
IV Psychic and Mental Work and Rest ... 42
V Sleep and Awakening 42
VI Excretion and Suppression of Body Fluids 43

Page

SECTION IV

Signs 44

Chapter
I Signs of temperamental changes ... 44
II Signs of Diseases of form and Structure 47
III General signs 48
(i) Pulse 48
(ii) Urine 57
(iii) Faeces 74

PART TWO

SECTION I

Hygiene 76

I Diet 77
II Articles of Drink 79
III Exercise and Rest of the Body ... 83
IV Sleep and Awakening 86
V Excretions and Retentions 87
VI Regulations for the Seasons 90

SECTION II

General Principles of Treatment ... 92

I Regulation of Six Essential Provisions 92
II Use of Drugs 94
III Principles of Treatment 100

INTRODUCTION

When the germ of a disease is found out the cause becomes simple or definite. Thus something definite and demonstrable assumes the insignia of being scientific. The magic of the medical art is to find out something to kill it. The fact requiring elicitation is whether it acts on the germ outside the body or when inside it. When a drug is successful in killing the organism ; outside the body its effects (when given to a patient) on the body other than the germ must also be ascertained. After a cure with the modern medicine the difficulty of regaining the powers is confronted with. A peep into the past will show that the Aristotelian Humoral concept of vitality or weakness of the body fluids is as rational today as it was in the past.

The view that the water-tight manner in the diagnostic field of the humorist not only prevents but closes up all avenues for experimental science is a misconception because no rationalisation is possible without sufficient experimental work. Thus the concise manner in which medical science based on the humoral theory is rationalised is only the observation of experiments and clinical manifestations developed on the basis of logic, produced as compendium of Medical Science.

A score of years ago a literature of this type would have appeared as a pseudo-exposition of a system of medicine that existed only to get buried fathoms deep. But now balanced scientists, in view of the aims of the medical science and the healing art will not hesitate to confess, " We have not advanced much," but this little advancement cannot progress further towards the aim without an inspiration from the literature of the past. It is to this end I am prompted to work. In the beginning, the life of the author is given on whose work, the *Canon*, this book is based.

LIFE OF AVICIENNA.

ABU ALI HUSAIN IBNE ABDULLA, IBNE SINA— known to the world as Avicienna and commonly known to the orient as "SHAIK-UR-RAEES," "Chief Master" was born in 980 A. D., at Afsehan (*Ispheban*) in the Persian province of Bokhara. His father was a highly placed official from Balkh and was an ardent follower of the Ismailee School of thought. His mother was from Bokhara. After the birth of

his younger brother the family moved to Bokhara where an instructor was engaged to teach him the "Holy Quran" and Arabic poetry. At the age of ten he knew the "Holy Quran" by heart. His progress was so rapid that auxiliary teaching aids were required. He was taught arithmetic by a greengrocer, law by an ascetic named Ibrahim and Euclid and logic by a wandering scholar named Natili. He found very little substance in this scholar and devoted himself to the study of medicine which he says "IS NOT DIFFICULT." At the age of 21 he lost his father and about the same time he composed his first book.

By the time he was sixteen years old he was so learned in medicine that adult qualified physicians came to learn from him. Whenever he encountered difficulty in a problem he would go to the mosque and will spend the day in prayer and will resume his work at night. When sleep overpowered him then alone he would sleep. The problem used to revolve in dream and get solved while in sleep.

It is said that he read Aristotelian Logic forty times over but he could not understand it. Fortunately at that time he got for a small sum a commentary by Al-Farabi.*

At the age of 18 his reputation as a physician was so great that he was summoned by a Sumani ruler, Nuh Ibn-e-Mansur. This prince in grateful recognition of his services allowed him the use of the Royal Library which contained rare Literature and many unique books. This library was burnt and as he was suspected he had to take refuge under Ali Ibn-e-Mamun the Ruler of Khiva. Very soon he had to flee from there to avoid Mohamed of Ghazni's attempt to kidnap him. From Khiva he fled to Jurjan. The ruler of that place Qabus was a famous patron of learning. Ibn-e-Sina's arrival there coincided with the deposition and murder of this ruler. After this disappointment he said :—

"When I became great, no country had room for me,
When my price went up, I lacked a purchaser."

---

* Mohamed Ibne Mohamed Ibne Tarkhan Abu Nas Al-Farabi was born at Farab. He is the first oriental commentator of Aristotelian Logic. He is said to have travelled widely. He died in 950 A.D.; 30 years before Avicienna's birth.

However in Amir Shamsudoula of Hamdan he found such a purchaser. Shamsudoula who was suffering from Colic was attended by Ibn-e-Sina. On being cured the prince gave him honours and made him his Prime Minister. There was a militant party to whose taste he was not suitable, so there was a mutiny. He was dismissed from office and was imprisoned. Luckily for Ibn-e-Sina the Prince got recurrence of the Colic and he was compelled to summon Ibn-e-Sina. On getting cured the King apologised and reinstated him to his Office.

His was an extraordinary strenuous life. All day he would be busy with his official work and for a good part of the night he used to spend in lecturing and dictating notes for his books. As a man of the world he loved wine, women and song more ardently perhaps than was good for his health. His life is minutely chronicled by his faithful friend and disciple Abu Umyad of Jurjan.

His career was a succession of ups and downs. Sometimes he would be in princely favour but at other times in jail. After settling at Isphehan he worked exclusively for science and continued his writings. Then every Friday the people used to assemble to learn more from his wisdom. Due to strenuous life he died at an early age of 58 in 1037 A.D.

His writings are numerous and in many cases voluminous. Al-Qifti's list of his complete works comprise titles of 21 major and 24 minor works and most of these are in Arabic. In Persian his mother tongue he wrote one large book a manual of Philosophy entitled *Danish-Nam-ae-Ali* and a small treatise on pulse.

Brockelmann's list of his works consists of 99 books of which 68 are on theology and metaphysics, 11 on astronomy, 16 on medicine and 4 in verse. His most celebrated Arabic poem is that describing the descent of soul in the body from the Higher sphere which is its home. Many of his short poems are ascribed to others and most of his quartarians to Omar Khyam. Out of the 16 books on medicine 8 are written in verse but most of them are neither valuable as a science nor as verse.

The Khanoon (*Canon*) is by far the largest, the most famous and the most important of Ibn-e-Sina's works and

at the same time accessible both in original Arabic and in a Latin translation by Gerard of Cremona. In the East, Persian and Urdu versions are also available.

As other Arabic works it contains over million words elaborately divided and subdivided. It consists of five sections each dealing respectively with (1) The theory of medicine (2) The simple drugs (3) Special pathology (4) General diseases and (5) Pharmacopia.

Next in importance to "Khanoon" is another treatise—by the same author—on Drugs acting on heart, several fine old copies of which are preserved in the British Museum and a few other great libraries that are unpublished and in-accessible beyond its walls.

PART I

SECTION I

THE ESSENTIAL FACTORS

The study of the conditions of the human body both in health and in disease is called the science of Medicine (*Ilm-ae-Thib*). It evolves such measures as can preserve health in the healthy and can regain lost health in the diseased. The knowledge of this science and the experiences gained from this when applied to a group of symptoms, gives rise to a conclusion which includes, (1) The understanding of the nature of the disease (Aetiology and Diagnosis) and (2) The nature of the end it will have (Prognosis). Prognosis is a delicate part of the physician's work which requires great tact and judgment not only in its elicitation but also in the way of stating it.

The Human body is constituted with *Seven essential factors*. (*Umoor-e-Thabbaeeya*). Viz (1) Units (*Arkan*), (2) Temperaments (*Mizdj*), (3) Humours (*Akhlath*), (4) Organs (*Aza*), (5) Souls (*Arvah*), (6) Powers (*Khuva*) and (7) Functions (*Afaal*). The existence of the body depends on them and if one of them be eliminated the human body will have no existence. These are considered in each of the chapters following.

CHAPTER I

UNITS—(*Arkan*)

The units (1) Air, (2) Earth, (3) Fire and (4) Water are four singular bodies with which primary formation of vegetables, animals and minerals has occured. In the modern Physiology the human body consists of different systems; each system is constituted by a number of organs and each organ is made primarily of a particular tissue and each tissue is a collection of similar cells. These are the units of the modern Physiology. In Unani Physiology the units are further analysed into its constituents, the primary fluids (Akhlath) and their units, the Arkan. Arkan are not synonyms to element, for they are not the units or the elements of Chemistry.

The conception of units has been criticised as fallacious on the assumption that their definition is the same as that of the elements. I need not discuss this, because the definition of an element as indivisible into two like bodies is not true to-day but still they serve to explain the phenomenon of the science which has given them that definition. Accepting that the definition of Arkan is similar to that of an element aud even if it is proved wrong to-day, it can not be said as unscientific for it explains the phenomenon for which it was constructed. The science which evolved these units and upon which it has built its rationales are still ideal and unshakable for all practical purposes. Dalton's Theory cannot be thrown simply because atom has become divisible ; similarly the Greek Theories based on these units are still practicable and are still serving the needs of millions in India. As long as the units of the Unani Medicines (if they be elements) explain a physiology, pathology and treatment, based on them and when they are efficacious the idea of criticising them can neither be scientific nor true.

1. **Air**—which is heavier than fire, is hot and moist in temperament. It is "hot" because it can dry up moisture and "moist" because it retains moisture which it gives up when sufficiently cooled. The temperament of air is that of summer (hot and moist) in winter much of moisture is ejected in the form of rain. Air is not only the mixture which we breathe but includes sublime factors that are not ordinarily observed.

2. **Earth**—is the heaviest of all the units. It is cold and dry as that of winter. It is "cold" because uninfluenced by other factors it is cold. "Dry" because it does not take shapes easily nor leaves them as the preceding. This is explanatory of coarse factors in a general sense.

3. **Fire**—is the lightest of the units and has a hot and dry temperament. It is called "hot" because it gives such a feeling and it is called "dry" because it does not possess moisture and is capable of drying up fluids. Although the definition includes the heat factor, it is comprehensive of subtle things, which include all factors leading to a chemical change.

4. **Water**—is heavier than air and is cold and moist in temperament. Its temperament is that of autumn (cold

and moist) which possesses the moisture gained in summer and the cold which is got with the approach of winter. Water is called "moist" because it can wet a dry thing and when evaporated produces "cold." Thus water stands for a general definition of all fluids.

UNITS

AIR	EARTH	FIRE	WATER
(hot and moist)	(cold and dry)	(hot and dry)	(cold and moist)

CHAPTER II

TEMPERAMENT—(*Mizaj*)

Temperament (*Mizaj*) is the resultant of the reaction between the opposite properties of the units. All the four units go in definite proportion in the formation of a body. The minute particles (*Ajza*) of these units interact and after neutralization of the opposite properties a temperament is obtained which is common to all its particles and they are the two compatible temperaments to one another *i.e.*, Hot and Moist and their contrary Cold and Dry.

Classification of Temperaments:—A Temperament may be (1). Real-equitable (*Mouthadil-ae-Hakhikhi*), (2). Equitable (*Mouthadil-ae-Thibi*) and (3). Unequitable (*Ghyer-ae-Mouthadil*).

Temperament is "Real-equitable" (*Mauthadil-ae-Hakhikhi*) where the temperaments of the four units used, are in equal quantities ; this does not exist.

2. **Equitable**—(*Mouthadil-ae-Thibi*) it does not mean equal quantities of all the temperaments, but it is the just and required amount of compatible temperaments. Every existing thing is constituted with the four units, air, earth, fire, and water. Thus they are all *Murakab* (compound and complex).

3. **Unequitable**—temperament (*Ghyer-ae-Mouthadil*) is an absence of just distribution of temperament according to their requirements. This may be in one or both the temperaments.

Unequitable—temperament is called *Singular* (*Mufered*) when any one of the four qualities (*Kyfiyath*) is predom inant *i.e.*

Heat (*Hararath*), Cold (*Brudath*), Moisture (*Ruthubath*) and Dryness (*Yubusath*).

Unequitable temperament is called *Complex* (*Murakab*) when any two compatible qualities are predominant *e.g.* Hot and dry (*Har Yabis*), cold and dry (*Barid Yabis*), Hot and moist (*Har Rathab*) and, cold and moist (*Barid Rathab*). Combination of hot and cold, or moist and dry cannot exist as they are opposite and incompatible and they neutralize each other.

Relativity in Temperaments:—Considering the temperament of all things the temperament of the Human beings is considered as equitable. Among them those who live *Near the Equator* have a temperament which is relatively more equitable than the rest and next to them are people living in the *Fourth Division of the Globe*.

From the Equator to each Pole each hemisphere is divided into seven Zones. By the Fourth Division is meant the fourth Zone which can be located in the middle of the Temperate Zone.

Considering the different periods of the life of man; during Youth (*Shabab*) the temperament is more equitable than at other parts of life. Children possess heat in the same amount as the youth but in them the vital fluids are more (*Ruthubath-ae-Gharezi*). Among adults and the old other body fluids (*Ruthubath-ae-Ghareeba*) neutralize the individual's heat (Hararath). The fluid in children (*Ruthubath-ae-Gharezi*) is like the moisture in a tender twig. In adults and the old (*Ruthubath-ae-Ghareeba*) is like a dry branch moistioned in water.

The temperament of the different parts of the skin also varies; the skin of the tip of the index finger is more equitable and the following are in the descending order of equitability:—Skin at the tips of other fingers, skin on all the fingers, skin of the pit of the palm of the hand, skin of the palm surrounding the pit, dorsum of the hand, the whole skin of the body.

Among all the organs the heart is relatively hotter (*Har*) in the descending order, are the cartilage, articular capsule, nerves, spinal cord, brain etc. The fluid fat is more moist and in the descending order are solid fat, thin fat and flat muscle, brain and spinal cord. Hair is dry and in the descending order n dryness are bone, cartilage, articular capsule and nerves.

TEMPERAMENT

is the resultant effect of the reaction of the opposite temperaments of the Units

- **SINGULAR** *(Muferad)*
  - HOT
  - DRY
  - COLD
  - MOIST
- **COMPLEX** *(Murakab)*
  - HOT & DRY
  - HOT & MOIST
  - COLD & DRY
  - COLD & MOIST

REAL-EQUITABLE — When equal amounts of all the four qualities exist in one temperament it is called REAL-EQUITABLE *(Mouthadil-ac-Hakhikhi)* which does not exist.

UNEQUITABLE

EQUITABLE — When required amounts of compatible qualities exist in one temperament it is called EQUITABLE *(Mouthadil-ac-Thibi)*.

When the proportion of compatible qualities in EQUITABLE temperament *(Mouthadil-ac-Thibi)* is altered it is called UNEQUITABLE *(Ghyr-ac-Mouthadil)*

SINGULAR
When there is abnormality in one factor the following temperaments are obtained.

- Hot
- Moist
- Dry
- Cold

COMPLEX
When there is abnormality in both the factors the following temperaments are obtained.

- (Hot & Dry)
- (Hot & Moist)
- (Cold & Dry)
- (Cold & Moist)

CHAPTER III

HUMOURS—(*Akhlath*)

Humours (*akhlath*) are those moist and fluid bodies which are formed from food in the liver and are capable of nourishing the body. They are said to be *abnormal* when they are not formed in the liver or, are not capable of nourishing the body.

Digestion according to Unani system has four stages. (1) **Stomach Digestion** (*Hazm-ae-Maidi*) in which the food mrterial is turned into Chyme (*Kaimoos*). (2) **Intestinal Digestion** (*Hazm-ae Maivi*) which converts Chyme into Chyle (*Kailoos*). This is absorbed by the mesenteric veins (*Urookh-ae-Masarikha*) and is carried to the liver. (3) **Liver Digestion** (*Hazm-ae-Jigri*). Liver converts the Chyle into Humours. Thus the "blood" leaving the liver contains all the four humours. Khoon being largest in quantity, is put as synonym to "blood", which also contains the other three humours. A large quantity is converted into Khoon, (blood) and in decreasing quantities are Balgham (phelgm), Safra (bile) Souda (black bile). By these three stages of digestion the Humours are formed. Their relative proportion is generally described as follows. When gruel out of flour is prepared in a vessel the whitish foam on the surface is like *Balgham*. The upper thin fluid resembles *Safra* and the lower thick resembles *Khoon*. The semi solid portion sticking to the bottom is like *Souda*. Thus when the Chyle is converted into Humours, *Khoon*, *Safra*, *Balgham* and *Souda* are formed. Avicienna calls these four primary fluids as *Ruthubath-ae-Oola* (first fluids) (4) **Tissue Digestion** (*Hazm-ae-Uzvi*). While the Humours are flowing in the blood vessels every tissue by its properties of absorption (*Khuvath-ae-Jaziba*) absorbs its nutrition, by its power of retention (*Khuvath-ae-Masika*) retains it. Then its power of digestion (*Khuvath-ae-Hazima*) works in it and converts them into the second fluids (*Ruthubath-ae-Sania*). Now the power that gives shape (*Khuvath-ae-Mushabiha*) acts in it and converts it to tissues. The useless material in Humours at this stage is excreted by the power of excretion (*Khuvath-ae-dafia*).

I. **Khoon.**—Humours are four in number best among them is khoon which carries nutrition to all parts of the body. Khoon is the blood of Modern Physiology without the other

three *Humours.* Normal Khoon is said to be sweet to taste. Abnormality in Khoon may be in colour, consistency or taste.

II. Balgham—is next in significance. The temperament of this Humour (*Khilth*) when normal is cold and moist. Normal Balgham can become Khoon to nourish organs when Khoon is deficient. The fluids that prevent friction in the joints are derived out of it. Although Khoon nourishes all the organs but to keep the temperament cold and moist, Balgham is used in large quantities in the nutrition of organs with cold and moist temperament. To sum up, normal Balgham is that which can easily become Khoon and nourish the body when required and can help to nourish the organs of its temperament. Balgham is responsible for the consistency of blood.

Abnormal Balgham (*Ghyer-ae-Thabayee Balgham*) is that which does not possess one or all the above properties. Balgham may become abnormal either in taste or in consistency. According to taste abnormal Balgham has four varieties :—

1. Saltish Balgham (*Balgham-ae-Maleh*) which is Hot and Dry in temperament. (2) Sour Balgham (*Balgham-ae-Hamiz*) this is Cold and Dry in temperament. (3) Tasteless Balgham (*Balgham-ae-Maseekh*) this is immature and cold in temperament. (4) Bitter Balgham (*Balgham-ae-Aafiz*). This also is cold and dry but more than Sour Balgham. These temperaments are relative to its normal cold and moist.

According to consistency abnormal Balgham has three varieties. (1) Watery Balgham (*Balgham-ae-Ma-ee*). This is more moist in temperament. (2) Solid Balgham (*Balgham-ae-Jassi*). This is more cold in temperament. (3) Balgham of irregular consistency (*Balgham-ae-Mukhathi*) some portion of it may be watery and some of it solid. The predominant temperament is of the part predominant. Some times the irregular consistency will not be clear. In such cases the spittoon is taken in an absorbent vessel. When the watery part is absorbed the solids (if present) will appear. This form is known as "Immature Balgham" (*Balgham-ae-Kham*).

Note :—Normal Balgham is not said to have been seen. Phlegm, Mucous, Cattarahal fluid are all abnormalities in Balgham.

III. **Safra**—is next to Balgham. Its temperament is hot and dry. Its functions are (1) It helps Khoon to diffuse through minute vessels by making the vessels to relax. (2) It is taken in large quantities by hot and dry organs with Khoon to keep their temperament. (3) When it falls on the Intestines it clears it of all the slimmy matter sticking on its interior and causes movements in them which facilitates the excretion of undigestable food material. (4) It possesses a bright colour as that of Safron, it is light and sharp in taste.

Abnormal Safra does not possess any or all these properties. It becomes abnormal in five varieties :—

1. Solid Safra—(like yolk of egg-*Safra-ae-Mohee*), when Safra becomes abnormal with thick Balgham. (2) Thick Safra (*Mira-ae-Safra*) when it becomes abnormal with thin Balgham. (3) Safra becomes abnormal with Souda (*Safra-ae-Moher-rikha*). (4) Burnt Safra unmixed with any other humour (*Safra-ae-Kurasee*). (5) Over Burnt Safra unmixed with any other humour (*Safra-ae-Zangaree*).

IV. **Souda**—is cold and dry in temperament, by its cold and dryness it thickens the blood. It is absorbed in larger quantities with blood, by cold and dry organs to maintain their temperament. Presence of Souda in the stomach causes appetite. Normal Souda is normal sediment of Khoon.

Abnormal Souda may result from extreme burning of all the four Humours. The temperament of each abnormal variety will be relatively more of the temperament of Humour from which it is derived *e.g* :—

1. Souda from over burning of Khoon is more towards hot and moist.

2. Souda from over burning of Safra is more towards hot and dry.

3. Souda from over burning of Balgham is more towards cold and moist.

4. Souda from over burning of Souda itself is more towards cold and dry.

CHAPTER IV

ORGANS—(*Aza*)

When the Humours are completed by the liver they keep flowing in the blood vessels and as such they are in contact with every tissue. The wear and tear of every tissue is replaced by these humours. The metabolic processes are carried on by the powers (*Khuva*) of each tissue. After tissue digestion a fluid (*ruthubalh*) is formed which is not the humour, nor is it like the organ. This is called "*Ruthubath-ae-Sania*" (Second Fluid of the body). *Khuvath-ae-Mushabiha* (the form giving power) then acts in this ruthubath and gives it the form of the tissue near which the fluid (*ruthubath-ae-Sania*) is present and completes the process of anabolism.

Organs are of two kinds :—(1) Singular (Muferad). (2) Compound (Murakab).

Definition of Singular Organ.—(*Muferad*). The definition of a part of it is true, for any part of the whole. These are ten in number. (1) Bone (*Hadi*). (2) Cartilage (*Kurri*). (3) Bursae (*Rebath*). (4) Nerves (*Pathae and Asab*). (5) Tendon (*Vithar*). (6) Membranes (*Jhiliyan*). (7) Muscle (*Goshth*). (8) *Shahem* (thick fat). (9) *Sameen* (thin fat). (10) Pulsating and non-pulsating vessels (*Shara-yeen and Vareed*).

All these are developed from the reproductive factors. Primary nutrition is carried on by maternal blood. Muscle is developed from thick part of "Khoon". Its condensed form is due to *Hararath* (heat). Thick and Thin fats are developed (*Shahem and Sameen*) from a part of the blood and their form is due to cold.

A Compound Organ—(*Azo-ae-Murakab*) is formed by a combination of singular organs. These combinations are of four kinds. (1) Formed purely by the combination of Singular organs. *e.g.*, muscle, contains flesh (muscle fibres, nervers and membranes-All Singular). (2) May be a combination of first type *e.g.*, *Eye* ; *i.e.*, eye ball with its muscles etc. (3) May be a combination of the first type which contains the second type in it. *e.g.*, face which contains the nose cheeks etc., and the "*Eye*". (4) May be the combination of the first variety which contains the third variety in it *e.g.*, *Head* in addition to face it has so many other parts.

Another classification of organs, is according to essentiality.

1. The Essential—Organs are called the "*Kingly Organs*" *Aza-ae-Raeesa*) without which even in part life would be extinct.

2. The Unessential—or the dependants (*Ghyer-ae-Raees*) are those without which in part, life can continue.

The Essential **Organs** are those that are the seat of the necessary powers of the body *e.g.* Brain, Heart and Liver. The necessary powers of the body :—

(*A*) **For Life to continue are** :—(1) *Khuvath-ae-Nafsani* which includes all mental powers and the nerves that are its servants that convey messages to and from the brain (which is its seat). (2) *Khuvath-ae-Hyvani* has heart for its seat. Blood vessels are its servants to convey blood to other organs and back to it. (3) *Khuvath-ae-Thabayee* has liver as its seat. The mesenteric and the systemic veins are its servants. The former brings chyme to it and the latter takes away the *Akhlath* from it.

(*B*) **For Propagation of Species** :—So far we know that brain, heart and liver are Essential or kingly organs. Testis and Ovary are also included as Essential or Kingly organs for the propagation of species. The appendages that serve either to preserve it or to carry it to the place where it has to be deposited are its servants.

CHAPTER V

SOULS—(*Arvah*)

Rooh—(Singular of Arvah) literally means "Soul". But from the medical point of view it is defined as "a light body developed from the purest humour." Each of the three essential or kingly organs, is the seat of a soul. Thus brain is both the seat of *Khuvath-ae-Nafsani* and *Rooh-ae-Nafsani*. Likewise Liver is the seat of *Khuvath-ae-Thabayee* and *Rooh-ae-thabayee* and Heart is the seat of *Khuvath-ae-hyvani* and *Rooh-ae-hyvani*.

Souls control powers so the varieties of souls are same as those of powers. If any distinction were to be made between powers and souls then the former may be called **Potentialities** and the latter as **Controllers**.

CHAPTER VI

POWERS—(*Khuva*)

Powers are of three kinds. I. *Khuvath-ae-thabayee* (Power of Metabolism and Reproduction), II. *Khuvath-ae-nafsani* (Nervous and psychic powers), III. *Khuvath-ae-hyvani* (Power that maintains life).

I. *Khuvath-ae-Thabayee.* **Power of Metabolism and Reproduction.** The seat of this power is liver but the process is carried on in every tissue throughout the body. The process of metabolism is completed by two factors (a) **Power to Nutrition** (*Khuvath-ae-Ghazia*) (b) **Power of Anabolism** (*Khuvath-ae-Namia*). These two are also considered as powers objective of the body and inherent in it.

(*a*) **Power to Nutrition**—(Or power to nourish the body) is developed from the food material taken in the liver and conveyed to all parts. Liver after preparing the nutritive fluids (Humours) sends them in circulation. For the local process of exchange to take place where **four powers** come into play until the humour becomes a part of the organ and all the four powers are possessed by each tissue. They are :—

(i) **Power of Absorbtion**—(*Khuvath-ae-Jaziba*). This power of the tissue will absorb the humour towards it. The temperament that helps absorbtion is dryness.

(ii) **Power of Retention**—(*Khuvath-ae-Masika*) retains the absorbed material as " Dew " drops on leaf by its cold.

(iii) **Power of Digestion**—(*Khuvath-ae.Hazima*) acting by its heat converts the humours into what is called the *Ruthubath-ae-sania* (second fluid).

(iv) **Power of Excretion**—(*Khuvath-ae-Dafia*) excretes all the unnecessary material separated till the formation of second fluids by its moistness. The Power of anabolism now comes into play. Thus the function of the " Power to Nutrition " is to prepare a fluid which is more than a humour and is short of being called a tissue. From this 'fluid tissue' construction of the tissues begin.

In short the powers act, by the temperaments ; the power of absorbtion does its function by " dryness " which absorbs the humours ; the Power of retention retains them by its "cold". The power of digestion is performed by " heat " causing the

necessary changes and the power of excretion is completed by "moistness." Thus a complex of these four powers, is called the "Power to Nutrition" *Khuvath-ae-Ghazia* *i.e.* this power prepares the necessities.

(*b*) **Power of Anabolism**—(*Khuvath-ae-Namia*) is responsible for the construction and growth of the human organism. This power causes growth in all directions to a maximum which is normal to the individual. This power commences to function in the second fluid (*Ruthubath-ae-sania*) and is served by the following three powers.

(i) **Power to Obtain Nutrition**—(*Khuvath-ae-Muhasila*) *i.e.* taking the necessary amount of the second fluid. (ii) Power to retain nutrition (*Khuvath-ae-Mulazikha*) *i.e.*, as power of retention (*Khuvath-ae-Masika*) of Power to nutrition (*Khuvath-ae-Ghazia*), (iii) Power that gives form (*Khuvath-ae-Mushabiha*) now acts and converts the second fluid (*Ruthubath-ae-Sania*) into tissues that are the body constituents.

So far, we have been dealing with the metabolism of individuals. As the individual is also responsible for the propagation of species we should also look into the reproductive aspect, and the **Preparation** for this purpose from **Nutrition**. This function is accomplished by two powers :—

(i) **Creative Powers** :—(*Khuvath-ae-Movalida*). This power is present in every tissue. Every tissue as it is replaced also prepares an essence which helps in the propagation of species. This essence is left into circulation to be analysed into **Semen** (*Sperm*) by the testis and **Ova** by the Ovaries. The creative power in the tissues of the testis or ovaries absorbs the essence from the blood and form **Sperm** and **Ova** respectively.

(ii) **Formative Power**—(*Khuvath-ae-Musavira*). This power differentiates all the tissues by stages into organs and systems from the developing *Nuthfa* (Fertilized Ovum). The similarity of the off-spring to the species and its likeness to one of its parents (*sex*) suggests that this power is not only present in the **Womb** but is also inherent in the reproductive factors.

II. *Khuvath-ae-Nafsani* **Nervous and Psychic Powers** are constituted by two powers.

A. **Power of Recognition**—(*Khuvath-ae-Mudareka*) which conveys impressions or sensations (*Hiss*) Sensory and *B.* **Power**

for Action (*Khuvath-ae-Muherika*) which brings about movements (*Harkath*) Motor as a response to the sensation.

A. **Powers of Recognition**—(*Khuvath-ae-Mudareka*) is called (i) **External Sensory** when it recognises objects outside the brain (*Khuvath-ae-Mudareka-ae-Bairooni*) this function is accomplished by organs of external sensations and feelings. (ii) **Internal Sensory** (*and Psychic*) when recognitions are not from outside but are inferences drawn from the external impressions and recognitions.

(i) **External Sensory Powers of Recognition**—are five in number :—

(*a*) **Power to See.**—(*Khuvath-ae-Binayee*). The eye is the organ for recognition of colour and form in the presence of light. Its seat is said to be at a place where the two optic nerves cross. (*Thakhath-ae-salibee*-optic chiasma).

(*b*) **Power of Hearing.**—(*Khuvath-ae-Sama-ath*) is accomplished by the ear which recognises sound by the nerves spread in it.

(*c*) **Power of Smelling**—(*Khuvath-ae-Sham*). The seat of this function is the Nipple like processes of brain that are under it and above the nose (Olfactory bulbs). Their function is to recognise smell from the inspired air.

(*d*) **Power of Taste.**—(*Khuvath-ae-Zoukh*) Taste is recognised by those nerve endings that are spread in the tongue for this purpose.

(*e*) **Power of Touch.**—(*Khuvath-ae-Lams*). The temperaments of objects heat, cold, dryness or moisture and their quality rough, oily, hard or soft are made out by feeling them with the hand and skin.

(ii) **Internal Sensory Powers of Recognition.**—(*Khuvath-ae-Mudareka-ae-andaroni*) are constituted by five powers and they are :—

(*a*) **Hiss-ae-Mushtharik.**—The function of the first internal power of recognition is to collect in one place all the external recognitions. It is situated in the anterior portion of the lateral ventricles and is called *Hiss-ae-Mushtharik*.

(*b*) **Khyal.**—The second internal power which retains all the material collected by *Hiss-ae-Mushtharik* is called *Khyal* and is situated in the posterior part of the lateral ventricles of the brain.

(*c*) **Vaham.**—The third internal power which co-relates all the external recognitions and draws conclusions from them is called *Vaham*. Its seat is the middle portion of the lateral Ventricles.

(*d*) **Hafiza.**—The fourth internal power which retains the conclusions of Vaham is called *Hafiza*. It is situated in the posterior part of the brain.

(*e*) **Khuvath-ae-Muthasarifa**—which is the fifth internal power is very difficult to understand. Its one meaning is "to possess all". This power is not possessed by any other creation except by the human being. This power gives the capacity to explain one thing in different ways. It is also responsible for dreams : where it may interpret friend into foe etc. We have seen that *Vaham* interprets all recognitions that are stored in *Khyal* and draws conclusions. The difference between *Vaham* and *Muthasarifa* is that *Vaham* limits itself to particular meaning of external recognition, whereas *Khuvath-ae-muthasarifa* interprets all the internal and external recognitions and arrives at conclusions from all these recognitions.

Khuvath-ae-Muthasarifa is called *Khuvath-ae-Mufekera* when it serves *Nafs-ae-Natheka*.

Nafs-ae-Natheka is a power that is capable of interpreting possible general conclusions. *Khuvath-ae-Muthasarifa* is called *Khuvath-ae-Mutha-Khyala* when it serves *Vaham*.

B. **Power for Action**—(*Khuvath-ae-Moherika*). Is of two types (a) Powers that are the cause of motion (b) Powers that cause motion.

(*a*) Powers that are .cause of motion are said to be *Showkhia* (due to desire–voluntary). When this motion results to get something beneficial, this is called *Shavania* (pertaining to desire), whereas if it results to prevent some injury to self it is called *Ghazbia* (pertaing to other's anger).

(*b*) Powers that cause motion are (i) *Tashanuj* contraction of a muscle (ii) The opposite of it, (relaxation).

III. *Khuvath-ae-Hyvani* Power that maintains life is that power which enables all the organs to accept the effect of *Khuvath-ae-Nafsani*. *Khuvath-ae-Hyvani*, prepares all tissues and makes them capable to respond to *Khuvath-ae-Nafsani*. Thus *Khuvath-ae-Hyvani* with Heart as its seat keeps life running in the tissues.

POWERS—(*Khuva*)

- *Khuvath-ae-Nafsani* — BRAIN
  - Powers of action — *K. Muherika*
    - Powers that cause motion
      - Contraction — *Thashannuj*
      - Relaxation
    - Powers that are cause of motion — *Showkhia*-desire
      - for benefit — *Shahvania*
      - for revenge — *Ghazbia*
  - Powers of recognition — *K. Muderika*
    - Internal sensory and Psychic.
      - a. *Hiss–ae–Mushtharik* Collector of all External recognitions
      - b. *Khyal* -Retainer of material already collected
      - c. *Vaham*— Co-relating and Concluding Power from the previous
      - d. *Hafiza*—Power that retains Conclusions
      - e. *Muthaserifa*— Power of Infering
    - External sensory
      - a. *Binayee* Sight
      - b. *Sama* Hearing
      - c. *Shum* Smell
      - d. *Zoukh* Taste
      - e. *Lums* Touch
- *Khuvathai-ae-Hyvani* — HEART
- *Khuvath-ae-Thabayee* — LIVER
  - Powers for Propagation of species
    - Creative — *K. Movallida*
    - Shape giving — *K. Musavira*
  - Powers for Life to continue
    - Powers of Anabolism — *Namia*
      - Form giving — *Mushabia*
      - Retainer — *Mulazikha*
      - Obtainer — *Muhasila*
    - Powers to Nourish — *Ghazia*

The functions of the above powers are compl ted by the following powers

- Absorbing — *Jaziba*
- Retaining — *Masika*
- Digesting — *Hazima*
- Excretory — *Dafia*

These are helped by their temperaments

- Dryness
- Cold
- Heat
- Moistness

CHAPTER VII

FUNCTIONS—(*Afaal*)

When a power is used a function is done (*fael*) when more power or powers are used functions or *Afaal* are performed. Thus a function is (1) Singular (*mufered*) when only one power is used and (2) Complex (*Murakab*) when a number of them are used.

In tissue digestion we have seen that a tissue absorbs nutrition by its power of absorption (*Khuvath-ae-Jaziba*). This is a singular function (*fael*). It retains nutrition by its retentive power, converts it into its like by the digestive (assimilative) power and excretes its waste by its excretory power. All these individually are singular functions and all these put together are a single but not a singular function of tissue metabolism but it is complex (*murakab*).

To be clear another example of complex function (*Fael-ae-murakab*) is the process of deglutition. This is a combination of (1) Absorbing power of stomach and Oesaphagus. (2) Expelling power of the muscles of deglutition situated at the back of the mouth and at the beginning of Oesaphagus.

SECTION II

STATES OF THE BODY—(*Halath*)

After dealing with essential factors that constitute the body, its different states of health disease etc., are dealt with. In discussing the essential factors it was made clear how Unani medicine deals with the subject of Physiology. In the following chapters Pathology of Unani is being discussed.

States of the body are grouped under three heads :—

I. **Health**—(*Saheth*) in which all the functions of the body are carried on normally.

II. **Disease**—(*Merz*) is opposite of health in which one or more functions or forms of the bodily organs will be at fault.

Disease will either be (i) Singular-simple-(*Mufered*) or (ii) Complex (*Murakab*).

A singular disease is one that completes its course without complication and a complex disease is the opposite of it. A singular disease may manifest itself in three forms.

CHAPTER I

TEMPERAMENTAL CHANGES

Temperamental change causing a disease—(*Merz-ae-su-ae-Mizaj*) occurs in singular organs. When the *temperament* of the organs become abnormal then it will have one of the eight temperaments that have been described in the chapter on temperament. In addition to these, four types of temperaments have been described.

(i) Temperamental changes that do not involve body fluids. These are called *Amraz-ae-su-ae-Mizaj Sada.*

(ii) When humours or other body fluids are also involved the diseases are then called *Amraz-ae-su-ae-Mizaj-ae-Maddi.* In diseases where fluids are involved, the abnormal fluids may be diffused or undiffused in the tissues of the organs. When it has diffused in the organs there are two possibilities; *i.e.*, it may or may not cause inflammation.

(iii) Diseases may be due to persistent abnormal temperament *Amraz-ae-su-ae-Mizaj-ae-Musthavi* in which the tissues are materially altered in such a way that while it continues to exist the patient does not feel pain or any other symptom *e.g.*, the white patches in Leucoderma though in themselves constitute a disease but do not cause pain or any inconvenience.

(iv) Disease may also result when an individual cannot adopt to a particular abnormal temperament they are called *Amraz-ae-su-ae-Mizaj Mukhthalif e.g.*, a change to hot temperament in stomach due to *Safra* which will cause vomitting pain etc.

CHAPTER II

STRUCTURAL CHANGES

Structural changes causing disease—(*Amraz-ae-Tarkeeb*) are of 4 types and occur in compound organs.

1. **The quantity alters**—(*Amraz-ae-Khilkhath*) in which **constituents** of the organs are altered. The alteration may be changes in the surface of the organs or in the passages or its spaces or in the size of the whole organ. Thus this variety has again four types. (a) Diseases of **form** (*Amraz-ae-Shakal*) in which the **shape** of the organ is altered *e.g.*, hunchback etc.. (b) Diseases of the **channels** (*Amraz-ae-Majari*) in which the passages in the organ may become altered *i.e.*, **wide**—a dilated pupil or **narrow** as happens in Asthma when the respiratory passages become narrow or it may be completely **blocked** as happens in some forms of jaundice where bile duct is completely closed. (c) Diseases of **cavities** and spaces (*Amraz-ae-Tajaweef*) in which the spaces are altered. (i) Spaces may become **broad** as happens with the bag of the testis (Hydrocele etc.). (ii) Spaces getting **narrow** as happens in the stomach in (Pyloric) obstruction. (iii) Space getting **completely empty** of its contents. This happens in extreme joy when heart suddenly empties its blood and **arvah** which may prove fatal. (iv) Spaces may be **filled up** completely as happens in **saktha** (apoplexy). (d) Diseases of the **surfaces** (*Amraz-ae-Sathah*). Surface of an organ may become **oily** as happens in some skin diseases or it becomes **rough** like the skin of the aged people or like the surface of the stomach with multiple ulcers.

2. **Diseases causing quantitative changes**—(*Amraz-ae-Mekhdar*) in which the **mass** of organ is altered. It is said to be **general** (*Aam*) when the whole body increases or decreases in size or **specific** (*Khass*) when one organ increases or decreases in size. The change in quantity in this category is by deposition of tissue unlike the previous in which it is proliferation of the specific tissue.

3. **Diseases causing Numerical changes**—(*Amraz-ae-Adad*) in which the number of the organ increases or decreases. This is called **natural** (*Thabayee*) when similar tissue develops as an extra finger and is **unnatural** (*Ghyer-ae-Thabayee*) when something unlike develops *e.g.*, trachoma bodies in the eye. Similarly a decrease is natural when it is by birth *i.e.*, absence of a finger and unnatural when a finger is removed by operation.

4. **Diseases that change the shape**—(*Amraz-ae-Vaza*) This may be displacement of an organ or altération of its relation

to other organs. This may bring three modifications in shape. (a) An organ may be dislocated (*khala*). (b) An organ becomes capable of motion in place where it should not, *e.g.*, floating kidney. (c) The incapacity of an organ to move towards or away from its neighbouring organs when it ought to do so *e.g.*, Ankylosis.

CHAPTER III

CHANGES IN INTEGRITY

Change in the integrity of the organs causing disease—(*Merz-ae-thaferukh-ae-ithesal*) occurs both in singular and compound organs.

Amraz-ae-Thaferukh-ae-Isthesal are diseases in which the integrity of the tissues of an organ is altered. According to the position or location of the disease the name is given when it is occurring in the skin as an itching sensation it is called *Khadash* when some of its layers are damaged then it is called *Jarahath*. When pus formation occurs it is called *Kherha*.

When a disease occurs in a bone which makes it into two parts or more than two parts it is called *Kaser* (Fracture). If these bits be small then it is called *Fasikh*. When the whole bone has been crushed then this condition is called *Mufath-Teth*. All these changes occur in breadth, both in bone and cartilage.

Thaferukh-ae-Ithesal of bone and cartilage occurring lengthwise is called *Sadey*. *Thaferukh-ae-Ithesal* of nerves and vessels in their breadth is called *Bathir*, when the same occurs lengthwise it is called *Shaque*, when the *Thaferukh-ae-Ithesal* is at the origin of the vessels it is called *Basique*.

A complex disease—(*Merz-ae-Murakab*) results due to the combination of diseases *e.g.*, *Merz-ae-Sil* (Tuberculosis of the lung) which is a combination of *Huma-ae-Dikh* and ulceration of the lung tissue.

Regarding the nomenclature of diseases it has to be pointed out that they are named either according to their (1) resemblance to a particular object *e.g.*, *Da-ul-Asad* (leprosy) meaning face of the lion. The face of a leper resembles in

fierceness to the face of a lion (2) resemblance to the after effect of a disease *e.g.*, *Da-ul-Feel* (elephantiasis) which means disease of the elephant. In this condition the legs of the patient looks like the legs of an elephant or (3) the site involved *e.g.*, *Zath-ul-janb* (disease of the Pleura) pleurisy. *Zath-ur-Reyah* (disease of the lung), though this is a *Varm* (inflammation) of lung tissue or (4) the cause of the disease *e.g.*, *Malikhulia* (melancholia) which means black humour (*souda* which is the cause) or (5) the Symptoms they produce *e.g.*, *Sara* (epilepsy) which means "to fall" and the falling of the patient is characteristic in this disease.

A disease may result by itself or may commence due to some preceding disease. When a disease occurs by itself it is called **Primary** (*Asli*) and when it is preceded by some other disease it is called **Secondary** (*Shirki*).

The Secondary involvement (*Shirkath*) in a disease may be due to (1) nearness of a susceptible organ to the affected organ. (2) If the organ happens to be in the passage by which the material of an affected organ is carried for excretion, *e.g.*, the glands of the groins getting enlarged when the injury is in the foot. The *Summiath* (toxins) are carried by the lymphatics and the glands that are in the passage are affected. (3) If the organs happen to be dependent on another then the disease of one will involve the other *e.g.*, nerves and brain. When the nerves carrying message are destroyed then that part of the brain that controls their function gets diseased or if a certain part of the brain gets diseased the nerves carrying messages to and from it become useless and get diseased. (4) If one organ happens to be the source of the function of others *e.g.*, brain for external senses. Disease of the brain may abolish all their functions and cause disease in them though they themselves are not diseased. (5) If one organ happens to be the place of excretion of unnecessary matter (*Fuzlath*) of an other organ *e.g.*, arm pit for heart. Skin behind the ear for Brain. Arm pit, skin behind the ear are not by themselves reseptacles of the excreta of these organs but what is meant is the lymphatic vessels and glands of these organs. Thus a disease in these organs will occur due to some cause if the Heart, the Liver and the Brain were to expel large

quantities of excreta. (5) A distant link in two organs may be the cause of secondary involvement *e.g.*, some gastric trouble giving rise to a disease in brain.

The course of a disease is divided into four stages. (1) *Ibthida* (onset). (2) *Taza-ed* the period during which it increases. (3) *Inhethath* where the progress of the disease ends (4) *Intheha* period of recovery or convalescence.

These stages can be recognised where recovery takes place. Death may occur in any of these stages. No definite distinction can be made between the ending of one stage and the beginning of the other.

Bohran is the climax of the fight between *Thabeyath* and the disease. *Bohran* generally occurs in the 3rd stage *Inhethath*. If *Thabeyath* succeeds convalescence begins and recovery takes place, when disease supervenes death results immediately or is followed by fatal complications.

III. The third state—(*Lasaheth-vo-Lamerz*) in which there is neither health nor disease is a condition in which.—

(*a*) There is neither complete health nor disease as is the case with the "Old People", "children or those who are convalescing" or

(*b*) Health and disease are present at the same time. There are two possibilities for this condition to occur. (1) There may be disease of one organ and health in the rest of the body *e.g.*, a blind man where all the organs are healthy except the eye which is diseased. (2) Health and disease occurring in the same organ. This has two varieties: (i) an organ may be normal by temperament (*Kyfiath*) but abnormal in form, (ii) an organ may be normal in form but it will be abnormal in quantity (*Kamiath*).

(*c*) Health and disease occur in different seasons *i.e.*, one may be healthy during summer and get the disease during winter.

STATES OF THE BODY—(*Halath.*)

- 1st State Health (*Sahoth*)
- 2nd State Disease (*Merz*)
  - Complex (*Murakab*)
    - Inflammation due to *Akhlath*
    - Inflammation due to *Ruthubath*
  - Simple or Singular (*Mufered*)
    - Alteration in integrity-*Madda*
      - Membranes
        - Between membranes Hydrocele etc.
        - Separation in compound organs
        - In dislocation
      - Passages
        - Wide
        - Narrow
      - Vessels
        - Non-Pulsating
        - Pulsating
          - Perforation
          - Cut in Length
          - Cut in Breadth
      - Muscles
        - Broken
        - Crushed
        - Lengthwise cut by which number is reduced
        - Cut breadthwise
        - At the ends—removal of attachments
      - Nerves
        - Splitting
        - Cut in length
        - Cut in breadth
      - Cartilage
        - Crushed
        - Lengthwise
        - Bits
      - Bones
        - Disease that eat up the bone
        - Crushing
        - Fracture lengthwise
        - Many pieces
        - Two or few big pieces
      - Flesh
        - Septic wound
        - Aseptic wound
      - Skin
        - Ulceration
        - Itching
    - Alteration in Structure-*Tarkeeb* in compound organs
      - Form (*Vaza*)
        - Change of form in conjunction with a disease
          - **Atrophy** in paralysis is change in form with the disease of the nerves
          - Hydrocele—increase in size in conjuction with a disease
        - Change of form by
          - Complete dislocation
          - Cramps where the joint is not involved
          - Un-natural movement in an organ (chorea)
          - Absence of movement in a movable organ joint ankylosis
      - Number (*Adad*)
        - Increase
        - Decrease
          - Natural
          - Un-natural
      - Quantity (*Mekhdar*)
        - Increase
        - Decrease
          - General (*Aam*)
          - Specific (*Khas*)
      - Space (*Khilkhath*)
        - Surfaces (*Suthooh*)
          - Rough
          - Oily
        - Cavities (*Tajaveef*)
        - Passages (*Majari*)
          - Narrow
          - Wide
          - Completely closed
        - Appearance (*Shakal*)
    - Alteration in Temperament *Su-ao-Mizaj*
      1. **Changing** *Mukhthalif*
      2. **Persistent** *Musthavi*
      3. **With Matter** *Maddi*
      4. **Simple** Without Matter *Sada*
- 3rd State *Lasahoth-vo-lamerz*

SECTION III

CAUSES—(*Asbab*)

Cause or *Sabab* is that which occurs before and due to this a new state which is either Health, disease or the 3rd state is created or a cause will bring about a state to remain in its own condition. *Sabab* which is generally taken as cause is capable of changing state or capable of preventing changes in it. Thus it is (a) A **curative** method that changes the state of disease to health. (b) **Hygienic** precautions that prevent a change into disease. These precautions may be such prophylactic measures that are preventive of diseases or such measures that are adopted for the invalids, that maintain them in a state which is normal to them.

The causes that change the states of the body can be grouped under three heads. (1) *External* cause (*Sabab-ae-Badi*). (2) **Internal** cause (*Sabab-ae-Vasil*). (3) *Precedent* cause (*Sabab-ae-sabique*).

1. **External Causes.**—(*Asbab-ae-Badi*) are such causes that are not associated with the body or Humours (*Akhlath*) or bodily temperament (*Mizaj*) but are due to external causes as sun's heat, cold weather and such factors that cause anger, fear, etc.

2. **Internal Causes.**—(*Asbab-ae-Vasil*) are such causes that alter Humour or its temperament causing another state unassociated with any other agency.

3. **Precedent Causes.**—(*Asbab-ae-Sabique*) are such causes that alter humour or its temperament in association with some other agency *e.g.* Fever may result due to putrefaction (*Ufoonath*) and for *Ufoonath* to accumulate a *Madda* (matter) is necessary. This accumulation of *Madda* is the precedent cause *Sabab-ae-Sabique* and *Ufoonath* (putrefaction) is internal cause which leads to fever.

Effect of cause *Sabab-ae-fael* may be by its '*Zath*' (self) *e.g.*, application of cold causing cold or by secondary effect (*Arz*) as a cold bath makes one feel warm after it.

Another meaning of sabab is "provision." The whole chapter may be re-read by replacing the world "cause" by "provision" cause conveys an objective meaning and helps

in diagnosis. When the same is read as provision it is suggestive of principles in treatment.

These provisions may be (i) Essential *Asbab-ae-Zarooria* *e.g.*, food, air, water etc. Essential provisions are those without which life is impossible, (ii) Unessential *Ghyer-ae-Zaroori*. Unessential provisions are those that are either injurious ordinarily or, are required in a state of disease *e.g.*, medicine, etc.

From the treatment point of view.

I. *Asbab-ae-Zarooria* "Essential provisions" are six: (1) Air. (2) Food and drinks. (3) Rest and exercise to the body. (4) Mental work and rest. (5) Sleep and awakening. (6) Excretion and suppression of abnormal body fluids.

II. *Asbab-ae-Ghyer-ae-Zarooria.* Unessential Provisions but not unnecessary. These are such provisions that are not actually needed but are helpful *e.g.*, getting burried in the sand up to the neck or rolling on it causes drying up of unnecessary *ruthubath* (fluids of the body, and is also helpful in ascites and paralysis. This can as well be included in excretions because in this also fluids are excreted, but these fluids are different from the regular abnormal fluids *e.g.*, urine etc. So it is not included in *Isthefragh* (excretions). Massage with olive oil helps in the excretion of bad matter. Sprinkling the body with cold water stimulates *Hararath-ae-Ghareezi* (vital heat of the body). This is helpful in reviving the unconscious people after a bath. Such other provisions can also be included in *Asbab-ae-Ghyr-ae-Zarooria.*

III. *Asbab-ae-Muzada,* are those provisions that are not only unnecessary but are against and injurious to the body *e.g.* (1) Getting drowned in water. (2) Getting oneself cut with a sword. (3) Getting burnt with fire and. (4) Use of Poisons.

IV. *Juzi-Asbab.* Individual provisions that are not essential but are not unnecessary in the treatment of diseases will now be discussed.

1. **Musakinath**—(sedatives) are those that give rest to one or all the systems of the body. (a) Moderate exercise. (b) Moderate use of heat producing articles of diet. (c) Moderate use of heat producing medicine internal or external. (d) Food moderate

in all its qualities. (e) Tolerable putrefaction of matter causing fever (pathological heat). (f) Closing up of the pores of the body that imprison heat in the interior.

2. **Muberridath**—(cooling) are those that create cold in the system: (a) All those causes that create excessive heat, that expel bodily heat, fluids and *Rooh* and as such cold results. (b) Incomplete *maturation* of Humours or articles of food. (c) Internal or external use of cold producing drugs or cold producing food.

3. **Murathibath**—are those that increase body fluids in the body: (a) Internal or external use of moisture producing drugs or food. (b) Luxurious life spent at rest. (c) Excessive food. (d) Prevention of resolution or suppression of the elimination of the moist humours.

4. **Mujaffifath**—are those that dry up fluids *e.g.*, (a) Internal or external use of *Muhallilath* (Resolvents). (b) Abstaining from food.

The application of the above provisions individually will cause singular alteration of temperament *i.e.* *Soo-ae-Mizaj-Mufered* (singular temperamental change) heat, cold, moisture or dryness. The application of the opposite temperament will neutralize the changed temperament, *Soo-ae-Mizaj*. When a combination of singular temperament causes a complex change in the individual's temperament then this complex change of temperament is called *soo-ae-mizaj Murakab*. By a combination of the *Juzi-Asbab* the compound temperaments are also neutralized.

5. **Mufsidath-ae-Shakal** are the factors that spoil the structure of the constituents of the organ with which they come in contact. These factors may originate before birth due to lack of *Khuvath-ae-Musavira* of *Rahem* (form giving power of the uterus). It may be due to lack of similar constituents in the male factor. These factors may originate while the child is born *e.g.* the child does not come out in its usual position or the handling of the nurse be such as will spoil the form or these factors may originate at the time when the child is dressed. If the child gets careless wrapping which may cause deformity of the limbs etc., or if it begins to walk about, before the bones get sufficiently strong and these

get bent by the body's own weight or the form gets altered by a disease *e.g.* leprosy.

CHAPTER I

AIR—(*Hava*)

Among the six essential provisions, the first one is air. This is present on all sides. The need for air is to correct the temperament of *Rooh* and cause the excretion of its bad matter —*fuzlath*. The act of inspiration corrects the temperament of *Rooh* and expiration helps in expelling the bad matter. As long as the air is clean and of normal temperament it guards the health of the individual.

If the air becomes abnormal due to (1) Sodden earth. (2) Vapour or gases emanating from dirty ponds and stagnating channels. (3) Vapours of such water in which some matter is undergoing putrefactive changes. (4) Vapours emanating from putrefying bodies. (5) Vapours given out by big trees like the fig and some particular smaller plants and also (6) such air in which is mixed much of water vapour and smoke; then it is not able to carry on its function normally.

Changes in air may be Natural—(*Thabayee*) as seasons of the year, or **Unnatural** (*Ghyer-ae-Thabayee*) which are against and injurious to the body.

In every season diseases occur similar to its temperament and diseases of opposite temperament automatically disappear.

In summer among Humours *Safra* is made in a large quantity. So in this season we get (1) Fevers that come every third day. (*Huma-ae-Ghib*). (2) Fevers that remain for four days only (*Huma-ae-Muharrikha*). (3) Thirst and (4) Restlessness are some times so severe that they are classed as seasonal disorders.

In Winter the predominating humour is *Balgham*. In this season we get diseases of its temperament. (1) **Cold** (*Zukam*). (2) **Catarrh** (*Nuzla*). (3) **Cough** (*Khansi*) and all other diseases due to abnormalities of this humour.

In autumn a large variety of diseases can be seen because (1) Winds in this season flow in a different direction. (2) In day time it is extremely hot while during night and early morning it is very cold. The body has to adopt

to these changes and in doing so it has to be constantly changing its temperament. (3) As this season is preceded by summer, a strenuous season which leaves excess of *Safra* in the system which burns other humours leaving the body taxed and exhausted. (4) In this season there are plenty of fruits which due to their moisture are not easily digested and give rise to excess of *Souda* and blood decreases. The temperament of this season is against that of blood's temperament; as such the remaining diseases of summer continue in this season.

In spring that humour becomes active which was latent in winter and flows to the weaker organs. Itch and diseases of the pharynx may occur. In spring all those diseases that have a precedent cause (*Sabab-ae-Sabique*) in bad matter rise up. This is not because the season is bad but because of the slight heat of this season, that does not effectively resolve the bad matter of the disease due to the previous season which has made the *Madda* completely latent.

Abnormal changes in air that are not against the body may have either a heavenly factor or an earthly one.

Heavenly factors.—(1) A number of planets getting collected in the nearest aspect of the sun due to which even in winter heat may be great. (2) During solar eclipse in summer the day suddenly becomes cold.

Earthly Factors—are those that are associated with earth and cause changes locally. This may be due to (1) Latitude or nearness to the equator. (2) High altitude. (3) Nearness to sea or mountains or (4) The position, height or depth of the place or (5) The kind of soil and (6) Thick growth of plants such as forests.

Arz is that distance which is measured from the equator to either pole. The distance between the equator and the pole on each side is divided into seven parts and each part is called an *Akhleem*. The first three are hot and among them the first part on either side of the equator is normal among them. The fifth, sixth and seventh are cold. The fourth which is between these two groups has a moderation of these two temperaments. Nearness to the seashore increases the moisture in air. Coastal places have moderation in their heat and cold.

Air in this place will not accept external effects easily because due to its being moist. The temperament of a place also depends upon its position under the sun. If the place be directly under the sun the air gets hot easily whereas farther the place the cooler it becomes.

Situation of the mountains in the north of the country makes it hot. The northern winds that are cold and dry are prevented from entering the place and the southern winds that are hot and moist are prevented from crossing. It reflects the sun's rays into the country. This explanation refers to northern hemisphere. Opposite of this will be true for countries situated in the southern hemisphere.

Situation of the mountains in the south gives an opposite effect *i.e.*, the country is cold due to the prevention of hot winds blowing into the country. Heat of the sun is not reflected and cold and dry winds of north are detained.

Situation of the mountains in the west is better than in the **East.** Mountains in the east prevent the early rays of the sun from entering the country and the people suddenly get the heat after the cold of the night. When the mountain is situated on the West it detains the winds which flow in the morning from the East to West (*Bad-ae-Saba*) which is better than the wind flowing in the opposite direction in the evening.

Places situated on a plateau and those whose ground level is same throughout enjoy an equitable climate.. Places that contain sulphur ore are hot and dry in temperament. Places with irregular soil cause early putrefaction and the air there will be laden with injurious moisture. Rocky places give a healthy constitution to its inhabitants.

Cold air makes the body strong and healthy. Improves digestion and complexion in those who can bear it and in others it produces disease due to its temperament *e.g.*, cold, catarrh, convulsions, paralysis and allied conditions.

Hot air makes the body weak and lax; disturbs digestion, weakens the brain and depresses mental faculties, Diphtheritic inflammation of the pharynx and conjunctivitis etc., commonly occur due to it. The change of air which is against and

injurious to the body is "**Voba**" (epidemic) in which air becomes poisonous and causes death.

CHAPTER II

FOOD AND DRINK

The ingested articles effect either by their quality or by matter. When these articles effect by **quality** (heat, cold, dryness or moisture) they are called **drugs** (*Dawa*) and when they act by their matter or substance they are called **food** (*Ghiza*) or sometimes they act by their mere presence, then they are called *Zoolkhasa*. If their effect be agreeable and helpful they are called (*Fad-Zaher*—anti-toxin or anti-poison) and if they be against and injurious then they are known as *Zaher* (poison).

Some ingested articles which effect both by their quality and matter are called medicinal food (*Ghiza-ae-Dawa-ia*) or if they effect by their **quality** and their **presence** such articles are called *Dawa-ae-Zoolkhasa* or their effect by their **quality, matter** and **presence.** Then they are called *Ghiza-ae-Dawa-ae-Zoolkhasa*.

Articles of food are sometimes said to be *Ghaleez*, meaning that the quality of Humour they form is thick in consistency and they are said to be *Lateef* when these are capable of producing Humour of thin consistency and there are others that produce Humour of moderate consistency.

Some articles of food form chyme of good quality and are called *Ghiza-ae-Saleh-ul-Kaimoos* which produce large quantities of good humour. Those that produce a bad quality are called *Ghiza-ae-Fasid-ul-Kaimoos* and there are others that produce a moderate quality of chyme and are known as *Ghiza-ae-Mouthadil-ul-Kaimoos*.

Some articles of food are of high nutritive value (H) and are called "*Kaseer-ul-Ghiza*" and those with low nutritive value (L) are called *Khaleel-ul-Ghiza*. From the point of view of the nutritive value again there is a moderate class (M) which is called *Mouthadil*—moderate in nutritive value.

Water is not food. Being fluid it is capable of diluting other body fluids which facilitate their passage in minute vessels and help vital heat (*Hararath-ae-Ghareezi*) of the body to mature matter.

FOOD QUALITIES

No.	Consistency of Humour.	Nutritive Value.	Quality of Chyme	Example.
1	*Ghaleez* (thick)	*Kaseer-ul-ghiza* (H)	*Saleh-ul-Kaimoos* (good chyme)	Cow's milk few days after delivery.
2	,,	*Khaleel-ul-Ghiza* (L)	,,	Full boiled eggs.
3	,,	*Mouthadil* (M)	,,	Calf's flesh.
4	*Lateef* (thin)	*Kaseer-ul-Ghiza* (H)	,,	Half-boiled eggs.
5	,,	*Khaleel-ul-Ghiza* (L)	,,	Pomegranate.
6	,,	*Mouthadil* (M)	,,	Grapes.
7	*Mouthadil* (moderate)	*Kaseer-ul-Ghiza* (H)	,,	One year old buffalo's flesh.
8	,,	*Khaleel-ul-Ghiza* (L)	,,	Walnut.
9	,,	*Mouthadil* (M)	,,	Mutton.
10	*Ghaleez* (thick)	*Kaseer-ul-Ghiza* (H)	*Fasid-ul-Kaimoos* (bad chyme)	Beef.
11	,,	*Khaleel-ul-Ghiza* (L)	,,	Brinjals.
12	,,	*Mouthadil* (M)	,,	Venison.
13	*Lateef* (thin)	*Kaseer-ul-Ghiza* (H)	,,	Goat's Lung.
14	,,	*Khaleel-ul-Ghiza* (L)	,,	Mustard.

FOOD QUALITIES—(*contd.*)

No.	Consistency of Humour.	Nutritive Value.	Quality of Chyme.	Example.
15	*Lateef* (thin)	*Mouthadil* (M)	*Fasid-ul-Kaimoos* (bad chyme)	Dried figs.
16	*Mouthadil* (moderate)	*Kaseer-ul-Ghiza* (H)	,,	3 year old buffalo's flesh.
17	,,	*Khaleel-ul-Ghiza* (L)	,,	Carrot.
18	,,	*Mouthadil* (M)	,,	Dried fish.
19	*Ghaleez* (thick)	*Kaseer-ul-Ghiza* (H)	*Mouthadil-ul-kaimoos* (moderate chyme)	Flesh of big fish.
20	,,	*Khaleel-ul-Ghiza* (L)	,,	Sweet potato.
21	,,	*Mouthadil* (M)	,,	Ass's milk.
22	*Lateef* (thin)	*Kaseer-ul-Ghiza* (H)	,,	Green leafy vegetable.
23	,,	*Khaleel-ul-Ghiza* (L)	,,	Small fish.
24	,,	*Mouthadil* (M)	,,	Pumpkin.
25	*Mouthadil* (moderate)	*Kaseer-ul-Ghiza* (H)	,,	Potatoes.
26	,,	*Khaleel-ul-Ghiza* (L)	,,	Tubers.
27	,,	*Mouthadil* (M)	,,	Beans.

CHAPTER III

PHYSICAL OR BODILY WORK AND REST

(Harkath-vo-sukoon-ae-Badani)

Bodily work is (*Harkath-ae-Badani*) in which one, all or some constituents of the body work *e.g.*, walking, running etc. Bodily rest (*Sukoon-ae-Badani*) means rest to one, all or some constituents of the body. Thus work may be **hard** (*Harkath-ae-Shadeed*), **light** (*Harkath-ae-Zaeef*) or **intermediate** or **moderate** of the two qualities (*Harkath-ae-Mouthadil*). The work may be large in quantity (*Harkath-ae-Kaseer*) or **less** (*Harkath-ae-Khaleel*) or a **moderate** of the two (*Harkath-ae-Mouthadil*). The work may be quick or **rapid** (*Harkath-ae-Taiz*) or **slow** (*Susth*) or **moderate** (*Mouthadil*).

Hence that work which is done quickly and is less hard resolves the bad matter in the body and produces heat which is more than necessary for the resolution of the bad matter. Large quantity of light work when done slowly has got opposite effect of the previous.

Excessive work or rest causes cold in the system. Because due to excessive work bodily heat is lost and due to much rest large quantities of body fluids get collected which normally would have been excreted. Rest helps in digestion of the food and work helps in the elimination of the excretas.

WORK QUALITIES

No.	Quality of Work.	Quantity of Work.	Rate of Work.
1	*Shadeed* (hard)	*Kaseer* (large)	*Taiz* (rapid)
2	,,	*Khaleel* (small)	,,
3	,,	*Mouthadil* (moderate)	,,
4	*Zaeef* (light)	*Kaseer* (large)	,,
5	,,	*Khaleel* (small)	,,
6	,,	*Mouthadil* (moderate)	,,
7	*Mouthadil* (moderate)	*Kaseer* (large)	,,

WORK QUALITIES—(*contd.*)

No.	Quality of Work.	Quantity of Work.	Rate of Work.
8	*Mouthadil* (moderate)	*Khaleel* (small)	*Taiz* (rapid)
9	,,	*Mouthadil* (moderate)	,,
10	*Shadeed* (hard)	*Kaseer* (large)	*Susth* (slow)
11	,,	*Khaleel* (small)	,,
12	,,	*Mouthadil* (moderate)	,,
13	*Zaeef* (light)	*Kaseer* (large)	,,
14	,,	*Khaleel* (small)	,,
15	,,	*Mouthadil* (moderate)	,,
16	*Mouthadil* (moderate)	*Kaseer* (large)	,,
17	,,	*Khaleel* (small)	,,
18	,,	*Mouthadil* (moderate)	,,
19	*Shadeed* (hard)	*Kaseer* (large)	*Mouthadil* (moderate)
20	,,	*Khaleel* (small)	,,
21	,,	*Mouthadil* (moderate)	,,
22	*Zaeef* (light)	*Kaseer* (large)	,,
23	,,	*Khaleel* (small)	,,
24	,,	*Mouthadil* (moderate)	,,
25	*Mouthadil* (moderate)	*Kaseer* (large)	,,
26	,,	*Khaleel* (small)	,,
27	,,	*Mouthadil* (moderate)	,,

CHAPTER IV

PSYCHIC AND MENTAL WORK AND REST

(*Harkath-vo-Sukoon-ae-Nafsani*)

Nafs means breath, soul or mental faculties—work and rest of *Nafs* may also be interpreted as mental fatigue and mental rest. These are six in number. (i) **Anger** (*Ghussa*). (ii) **Joy or happiness** (*Khushi*). (iii) **Taste** (*Lazzath*). (iv) **Fear** (*Dar*). (v) **Sorrow** (*Gham*), and (vi) **Shamefulness** (*Shermindagi*). Presence of these is fatigue or work to the mind and their absence rest. These factors of joy, fear etc., are all recognised by the mind. It is mind alone that feels and these are not directly related to the body although due to these feelings changes occur secondarily in Humours and Souls (*Arvah*).

In anger *Khoon* and *Rooh* come out whereas in fear they move to the interior. These happenings are *Harkath-ae-Nafsani* and their absence *Sukoon-ae-Nafsani*. In *Harkath-ae-Nafsani* the activity of *Rooh* is essential: (a) It may suddenly come out (flow) as in anger (b) or it may come out slowly as in joy (c) or it may suddenly get in as in fear or (d) it moves slowly inside as in sorrow (e) or it may rapidly move either ways when one is ashamed. In these conditions heat is created in the place to which *Rooh* flows and the place from whence *Rooh* flowed becomes cool. In *Harkath-ae-Nafsani* when the flow of *Rooh* becomes excessive it becomes dangerous to life. In extreme fear *Rooh* flows in and does not come out and may cause death.

In individuals who do not experience sorrow, anger, joy etc., *Rooh* does not move about; as such they become intellectually poor.

CHAPTER V

SLEEP AND AWAKENING—(*Neend-vo-Baidari*)

Sleep is similar to rest and awakening to work. During sleep Ketabolic changes are minimum and the Phenomena is mostly constructive; thus *neend* (sleep) is *Sukoon* (rest) and *Baidari* (awakening) its oppposite.

During sleep *Rooh* goes into the interior and cold is felt in the exterior. As such there is inclination to cover

CAUSES

(Provisions—*Asbab*)

- External (*Badi*) | Internal (*Vasil*) | Precedent (*Sabique*)
  - Un-essential
    - But helpful
      - Sedatives
        - Cooling by their cold
        - Resolvents
        - Cooling by moisture
    - Deformer
    - Injurious
      - Accidents
      - Suicide
      - Poisoning
    - But not un-necessary
      - Application of moisture
      - Application of cold
      - Application of heat
      - Burying in sand
  - Essential
    - Bodily work and rest
      - Rate
        - Rapid
        - Slow
        - Moderate
      - Quantity
        - Heavy
        - Light
        - Moderate
      - Quality
        - Hard
        - Light
        - Moderate
    - Psychic and mental work and rest
    - Sleep and awakening
    - Excretion and retention
    - Food and drink
      - Thick in consistency | Thin in consistency
        - Less nutritious | Highly nutritious
          - Bad chyme | Good chyme
      - Moderate of the two
    - Air

the body, in the same climatic conditions; no covering is desired while awake. Excessive sleep causes accumulation of *Ruthubath* which cause cold in the body. If the body happens to be free from humour during sleep then the *Rooh* gets spread and causes cold in the body and if it finds food in the stomach it helps in its digestion and causes heat in the body. If during sleep some undigestible humour be present then it is divided and directed to different parts of the body to facilitate its digestion which again causes cold in the body.

Keeping awake at night weakens the brain and spoils digestion due to strain on powers. As matter is spent while awake it creates appetite. Day sleeping is bad. It spoils the colour of the skin and it is not favourable for spleen functions. It causes bad odour in the mouth. It makes mental powers slack and weak and lowers intelligence. If any one is habituated to sleep in the day he should leave it gradually. When sleep does not come, to keep changing sides is bad, *i.e.*, either one should concentrate to sleep as such or get up and keep oneself engaged in some work and then go to sleep.

CHAPTER VI

EXCRETION AND SUPPRESSION OF BODY FLUIDS

(*Isthifragh-vo-Ihthebas*)

The process of excretion of bad matter as urine, faeces, sweat etc., is called excretion. *Isthifragh* and their retention in the system is called suppression, *Ihthebas.* A moderation of the two processes is helpful for health. Excessive excretion causes cold and dryness in the body. If the excreted fluids happen to be cold and dry then a temporary temperament of hot and moist is created in the body. When excretion is suppressed necessarily *Sudda*—obstruction—results. This suppressed matter is liable to putrefaction—*Ufoonath*—the *Sammiath*—Cachexia—of which will cause loss of appetite, heaviness of the body etc.

SECTION IV

SIGNS—(*Alamath*)

Sign—(*Alamath*) is that by which a particular condition either of health or of disease is concluded. (a) Signs may suggest some past events or probable diseases by which the physician alone is benefitted because if the physician makes out for the patient some events of his life by these signs then the patient gets convinced of the capacity of the physician or (b) Signs may show the present condition of the body by which the diseased is benefitted because when these signs are made out by the physician he treats the patients accordingly. (c) Signs may show what is going to happen in future. By these the physician and the patient both are benefitted. The physician is benefitted in the sense that he can warn the patient of what is going to happen. As patients generally do not believe in prevention they neglect the warning and when they suffer not only they recognise the capacity of the physician but implicitly follow the precautions however slight later on. By this group of signs the patient is benefitted because he can have the malady prevented by undertaking preventive measures. Signs are of two kinds: (1) Those that show the temperamental changes in the body and (2) those that show changes in form and structure of the body.

CHAPTER I

SIGNS OF TEMPERAMENTAL CHANGES

Signs that show temperamental changes in the body are **ten** in number.

1. **Touch or feeling**—(*Mulmass*). By touch the temperament of the part and its association with the other parts of the body is made out, or the nature of the structure felt locally and its association with other parts of the body can be made out. When by touch no extra heat, cold, dryness or moistness is felt then it is a moderation of all temperaments. If it is otherwise then the abnormality is of the predominant temperament. Similarly the relative hardness, softness, or their being nodular or fluctuating etc.,

are clinical entities which (with other signs) help in the diagnosis. The physician eliciting the sense of touch and feeling must himself be of normal temperament and the skin of his hand must be moderate in all qualities including hardness or softness.

2. **Flesh and fat**—(*Gosth*-flesh ; *Sameen*-thin fat ; *Shahem*-thick fat). Excess of flesh and fat are due to excessive *Ruthubath* (fluids). Want of flesh and fat shows dryness in the system. Excess of muscle is due to excess of fluids and heat (*Ruthubath* and *Hararath*) and excess of fat is due to fluids and cold (*Brudath* and *Ruthubath*).

3. **Hair**—(*Bal*). If hair of the body be profuse, thick, curly and black then it is due to the body being hot and dry in temperament. If they be scanty, thin, straight and greyish then it is due to the temperament being cold and moist.

4. **Colour of the Skin**—A whitish colour is due to excessive *Brudath* (cold) or *Balgham*. Redness may be due to the presence of *Hararath* (heat) or blood. Body colour which is between white and red, shows a moderation of two temperaments cold and heat or the two humours *Balgham* and *Khoon*. When the body is brown like the colour of wheat it shows heat in the body. Yellowish or pale tinge of the body shows excessive heat and presence of *Safra* or want of *Khoon* as seen in the convalescent. Blackish or a bluish colour of the body is due to cold and presence of *Souda*.

5. **Form of the body constituents**—(*A'za-ki-Sakhth*). If the chest and the veins be prominent with well built limbs and prominent joints with a jumping pulse (*Saree*) it is due to *Hararath* (heat). If the chest be sunken veins invisible with flaccid limbs and joints with a soft and prominent pulse then the body temperament in cold.

6. **Susceptibility or the capacity of the body to be influenced by a temperament**—(*Kaifiath-ae-Infeyal*). This temperament is that to which the body is easily susceptible. Some people cannot stand cold weather or the climatic conditions of cold countries and are easily affected by diseases due to cold. The temperament of such individuals will be cold. Similarly those who do not stand either the hot or moist, or dry temperament are of the same temperament.

7. **Normal Functions**—(*Thabayee Af-aal*). If the bodily functions are going on normally and regularly then the body is in a state of normal temperament. If the usual bodily functions become slow and weak it shows presence of *Brudath*. If the bodily functions become indifferent and irregular then it shows the presence of *Hararath* in the body. If the bodily functions become rapid it is due to the presence of dryness in the system and when slow not only *Brudath* is present but also the presence of plenty of fluids in the system.

8. **Excretas of the body**—(*Fuzlath-ae-Jism*). Urine, perspiration etc. If these be of high colour and acrid smell they indicate the presence of *Hararath* in the body. If these be colourless and large in quantity it shows cold and presence of fluids in the system. Excretions of high colour and acrid smell when small in quantity indicate the presence of dryness in the system.

9. **Sleep and awakening.**—Excessive sleep indicates cold and moisture (fluids) in the system, and want of sleep indicates dryness, and heat in the system and their appropriateness shows a moderation of the temperaments.

10. **Mental conditions** — (*Infiyalath-ae-Nafsania*). As sorrow, anger, joy, fear and shyness (see *Harkath-ae-Nafsania*). Severe, frequent and rapid occurrence of these indicates the presence of *Hararath* in the body and mind's weakness. Unfrequent and slow indicates the presence of cold in the body. Persistence of these indicates dryness in the body but when these conditions come on easily and are easily lost then they indicate the presence of fluids in the body.

Cowardice indicates weak heart and cold, whereas courage, bold acts, severe anger indicate the presence of heat in the body. Shyness and reservedness indicate presence of cold in the system. When a combination of above signs are present then it is a combination of these temperaments in equal proportion to the severity of the dominant sign. One or some of the above ten signs are always seen in an individual and thus gives him a characteristic temperament which is not injurious. If temperament be changed due to any external cause then it is **Ghyr-ae-Thabayee** (pathological).

If as a disease the change of temperament be; *Maddi* (which has an abnormal Humour as its cause) and if it involves *Safra* then the signs of the *Safravi* temperament will be *Vakhaz* (pin prick sensation) and *Nakhaz* (sensation of prick by some thicker object) and heaviness of the body.

The sign of *Khooni* temperament will be heaviness in the body redness and a sense of fulness, hence, the individual may be fat. The signs of *Balghami* temperament will be absence of thirst, body will be white, inclination to sleep with excessive salivation and the body will be heavy. The signs of *Soudavi* temperaments are dryness in the body, insomnia and feeling of lightness.

Dreams.—Some dreams also suggest the kind of *Madda* (matter) present in the body *viz*. Seeing of yellow objects, fire etc., indicates *Safra* in the body, seeing of red objects indicates *Khoon*. Seeing of water, snow, clouds and hearing of thundering indicate presence of *Balgham* in the body. Seeing of black, fearful objects and smoke indicates presence of *Souda* in the body.

Sometimes the predominance of a *Khilth* in a body may be influenced by age, habit, habitat, season and dietary changes. *viz*., in youth and in hot countries *Safra* is predominant. In summer much *Safra* is produced. Use of hot articles of diet produce *Safra*. In similar manner the other humours can be detected.

CHAPTER II

SIGNS OF THE DISEASES OF FORM OR STRUCTURE—(*Amraz-ae-Tharkeeb*)

Diseases of form or structure are three in number. (1) Signs that show structural changes but no numerical alteration (*Alamath-ae-Jowheria*). (2) Signs that show changes in the form of the organs (*Alamath-ae-Arz-ee-ya*). (3) Signs that show the changes in the functions of the organs (*Alamath-ae-Tamamia*).

If the usual functions are carried on undisturbed, it is health. If these functions become irregular or stop altogether it indicates the presence of cold or alteration in the structure of the organ. If the functions are irregular and indifferent then it indicates the presence of heat in the system.

1. Sometimes signs indicate a particular state as signs of inflammation indicate inflammation.

2. Sometimes the signs show the nature of the cause *i.e.*, to what humour it is due to.

3. Sometimes the signs indicate the site of the disease *e.g.*, *Minsharee* pulse (see pulse) indicates Pleurisy (*Zathul-Janb*) at the diaphragm (*Hijab-ae-Hajiz*).

4. Sometimes the signs show the stage of the disease whether it is the begianing, or the rise or the end or fall.

5. Sometimes the signs indicate a particular stage in a disease *e.g.*, Crisis (*Bohran*). Crisis is said to be the fight between body powers and disease and that too occurring when the disease has fully developed. This struggle is decisive. If the body overpowers the disease recovery ensues but if the disease takes the upper hand then complications set in which may lead to death.

Sometimes the signs indicate the nature of a particular stage that is going to come up *e.g.*, if in the crisis the body powers get the upper hand then the channels by which the *Madda* (matter) of the disease is to be expelled will be shown ; watery motions, vomit, perspiration, epistaxis etc.

CHAPTER III

GENERAL SIGNS—(*Alamath-ae-Amma*)

1. PULSE—(Nabz)

Nabz is a particular kind of movement in the arteries in which the form of the arteries keeps changing (it dilates and contracts). This kind of movement is known as *Harkath-ae-vaza-ee-ya* (motile-change in form). The aim of this movement is to cool the *Rooh* (to maintain moderation of temperament by the cool air) and to remove the hot vapours of *Rooh*.

Rooh has been described to have been formed from the essence of humours. Its different form (*Rooh-ae-Nafsani ; Rooh-ae-Hyvani ; Rooh-ae-Thabayee*) have different centres assigned to them. *Rooh-ae-Nafsani* in brain, *Rooh-ae-Thabayee* in liver and *Rooh-ae-Hyvani* in heart. The heart as its centre it flows to every tissue. The statement "to cool Rooh by cool

air" explains the "tissue respiration" and to remove hot vapours "suggests the elimination of gaseous impurities and "carbon dioxide."

While feeling the pulse the physician places all the tips of the four fingers together on the radial artery. The tip of the index finger is placed at the lower end of the radius. The physician uses the same hand as that of the patient.

Ten Singular qualities are attributed to the pulse and eighteen combinations are described as Complex pulse. The following are the ten points of singular pulse that indicate the nature of the states of the body.

I. **Quantity**—(*Mekhdar*). In this are considered the length, breadth and height of the pulse. Thus according to quantity there are nine points in the pulse.

1. **Long** (*Taweel*): when the tips of all the four fingers are placed on the radial artery, commencing from the lower end of the radius stroke is felt at some point or points but the movement is detected by all the tips. The pulse is long when the movement is felt on all the tips and seems to pass beyond. This suggests the distance between two points of contraction or relaxation (wave length). A long pulse shows sufficient amount of fluids in the system with elasticity in the vessel wall. The heart must be enjoying the maximum rest period which means that it acts with good force rythmically and the same is maintained all through the vessels. This pulse is seen easily when exercise is taken after a refreshing sleep. This is one of the factors of the pulse in good youth.

2. **Short**—(*Khaseer*) is that pulse whose movement is felt within the tips of the index and the little finger. A short pulse is an opposite condition seen when there is loss of elasticity in the vessel wall and general weakness as in old people. After severe exercise the pulse may become short: then it is not due to want of elasticity or weakness but it is a measure to manage rapid metabolic changes; with rest, it comes to normal.

3. **Moderate** in these qualities is that pulse which is felt by the tips of all the four fingers. A moderate pulse is one which is generally found in the healthy individuals.

It has been mentioned before that a long pulse should be felt beyond the tips of the four fingers, a short pulse within the tips of four fingers and a moderate one just touching the tips of all the four. This is true for average individuals but in case of people of short stature and tiny limbs the length is to be determined in relation to the length occupied by four fingers of the individual himself.

4. **Broad**—(*Aareez*) pulse is that which touches the whole breadth of the finger tips. This indicates the presence of a moist humour. If the moist humour be *Khoon* the pulse while broad it is also long but when it is due to *Balgham* it is broad and short.

5. **Narrow**—(*Zeekh*) pulse is felt like a thread. A narrow pulse indicates the presence of a dry humour. If it is due to *Safra* then it will be jumping and if it is due to *Souda* it will be low.

6. **Moderate** of these two qualities is a pulse which is neither thready nor broad which is just short of touching the breadth of the tips of the fingers. A moderation in breadth shows moderation of the dry humours in the body.

7. **High**—(*Mushrif*) is that pulse which appears to be just under the skin and the artery under the fingers appears to be jumping. It may have one of the three previous quantities, long, short or moderate; it shows the presence of a hot humour. If the hot humour be *Khoon* (blood) a jumping pulse will be long and if it is due to *safra* then it will be short.

8. **Low**—(*Munkhafiz*) which seems to be deeply seated and is perceptible with difficulty. The more difficult it is to find the more low it is. It indicates the presence of a cold humour. If it is due to *Balgham* (cold and moist) it is low with moderate length, whereas if it is due to *Souda* it is low and short.

9. **Moderate** of these two quantities is a pulse which does not seem to be deeply seated nor just under the skin but at a relatively central position and indicates a moderation in the quantities of the two cold humours, *Balgham and Souda*. By a combination of these 9 forms, 27 varieties are possible.

LENGTH, BREADTH AND HEIGHT COMBINATIONS

1	Long	Broad	and	High
2	Long	Broad	and	Low
3	Long	Broad	and	Moderate
4	Long	Narrow	and	High
5	Long	Narrow	and	Low
6	Long	Narrow	and	Moderate
7	Long	Moderate	and	High
8	Long	Moderate	and	Low
9	Long	Moderate	and	Moderate
10	Short	Broad	and	High
11	Short	Broad	and	Low
12	Short	Broad	and	Moderate
13	Short	Narrow	and	High
14	Short	Narrow	and	Low
15	Short	Marrow	and	Moderate
16	Short	Moderate	and	High
17	Short	Moderate	and	Low
18	Short	Moderate	and	Moderate
19	Moderate	Broad	and	High
20	Moderate	Broad	and	Low
21	Moderate	Broad	and	Moderate
22	Moderate	Narrow	and	High
23	Moderate	Narrow	and	Low
24	Moderate	Narrow	and	Moderate
25	Moderate	Moderate	and	High
26	Moderate	Moderate	and	Low
27	Moderate	Moderate	and	Moderate

Among these twenty seven the pulse which is 'long, broad and high' is called **Great** (*Azeem.*)

A pulse becomes great (*Azeem*) when the heat in the body is increased with the fluids remaining normal. By this is meant that blood should be more in contact with air, to cool the *Rooh* and make the body moderately hot. A great pulse should not be hard (*Salib*) but should be soft and elastic. If this be soft and elastic it ensures the coming in of full quantity of blood.

If the heat in the system increases the pulse becomes *Azeem* (great) and if it cannot effectively moderate the heat,

then it increases its pace by becoming rapid (*Saree*). By this change the time of contraction and relaxation becomes short, rest period remaining unaltered. If with the rapidity moderation of the temperament does not occur then the power begins to fail and the pulse becomes quick (rest period is also shortened).

The one which is 'short, narrow and low' is called the low pulse (*Sagheer*).

If the wall of the artery be hard then the pulse cannot expand to become Great when necessary. So for a similar function it becomes first rapid—gains the 'volume by increased rate and along with it, it becomes **Sagheer**. This is what happens when dryness in the system increases and the strength and power fail.

If the body is weak the pulse can neither become 'great' nor 'rapid' but it becomes quick and low. Even if the strength be normal pulse may be low, then it is due to excessive fluid in the system.

The pulse may become low at the commencement of the attack of a disease. If large quantities of fluids be present in the body the pulse becomes 'soft'. In the absence of fluids or when there is dryness in the system, it becomes 'hard'. In some type of crisis the pulse may become low because the matter is directed for excretion to some other channel and until such excretion is completed the arteries remain contracted.

The **moderate** is moderate in length, breadth and height.

II. **Nature of the stroke.**—(*Kaifiath-ae-Kherha*) The feeling of the nature of the arterial contractions felt by the tips of the fingers is qualified as (1) A **strong** pulse (*Nabz-ae-Khavi*) when it is moderate in quantity and the quality of the striking force; pulsating under the pressure of the tips of the fingers, which in average individuals would abolish the pulse strokes. This indicates a strong heart. (2) It is called **feeble** (*Zaeef*) when it is poor in quantity and weak in its quality of striking and stops pulsation under a pressure which is less than that required by average individual showing all humours to be less in quantity and low in quality.

III. **Duration of Movement**—(*Zamana-ae-Harkath*) as the pulse is felt a feeling of the commencement of contraction is observed before the actual stroke and a similar feeling of relaxation before it ends and is followed by a pause. By duration of movement is meant the period between the beginning of contraction until the end of relaxation. When this period is reduced "Interval" (pause) remaining normal, the number of beats are increased. This kind of rapidity is called *Suraath* and this kind of pulse is called *Nabz-ae-Saree* (rapid). A rapid pulse (*Saree*) is that which pulsates for a greater number of times than that which is normal for the age. In rapid pulse period of 'rest is not altered'. This shows the presence of heat and dryness in the system *i.e.*, presence of '*Safra*'. When the duration of the movement is increased the interval remaining the same the number of beats is decreased. This kind of pulse is known as *Nabz-ae-Bathi* (slow) which shows the presence of a cold and moist humour *Balgham*. If the duration of movement and rest is proportionate then it is called *Nabze-ae-Muthavasith* (Moderate). This indicates a moderation of the humours which is normal to the individual under his environments.

IV. **Consistency of the Organ**—(vessel wall) *Khavam-ae-ala.* When the arterial wall is hard to touch it is called *Salb.* A hard pulse shows the presence of dry humour which has hardened the vessel wall. If the pulse is hard and low it shows the presence of *Souda* whereas if it be hard and high it indicates presence of *Safra.* When it is soft it is called *Layeen* which shows the presence of *Balgham* and *Ruthubath.* When it is Moderate in consistency it is known as *Muthavasith-ul-Khavam* which is a moderation of humours and fluids.

V. **Period of Rest**—(*Zamana-ae-Sukoon*) is the duration between the cessation of movement to the beginning of the movement. When this period gets shortened the number of beats increase. This kind of increase in number of beats of the pulse is called *Thavathur.* So this pulse is known as *Nabz-ae-Muthavathir* (Quick Repeater). A Quick Pulse indicates the failure of strength when strength fails powers are automatically lost when powers are being lost the beats are observed to miss, this leads to death. If a quick pulse becomes moderate

it indicates the restoration of strength *i.e.*, progress to health. When the duration of rest is increased the number of beats of the pulse becomes less. This kind of pulse is known as *Nabz-ae-Muthavasith.* When the duration of rest is normal it is called *Muthavasith-ul-Sukoon.*

VI. **Condition of the Vessel Wall**—*Kaifiath-ae-Jirm-ae-Urookh*) when the pulse is felt it may appear warm (*Har*) cold (*Barid*) or moderately hot as in normal body. A warm feeling of the pulse suggests the possibility of fever. A cold feeling indicates weakness and want of fluids in the system. A moderate warmth is normal for an individual.

In an individual who is diseased and weak, from the prognosis point of view, a pulse is said "to be of good quality" when the state of the patient and the relative state of the pulse is good.

The pulse is said to be of a low quality at a stage when the qualities indicate a bad prognosis. If the "irregularity of the pulse be persistent" the prognosis is favourable; for, it can be hoped that it may become regular whereas if the irregularity becomes irregular it is of bad prognosis.

VII. **Amount of fluid in the Pulse**—(*Ma-fee-Tajaveef-ul-Urookh*) when the pulse is full it is called *Mumthali* (Full) and when not full but less than normal it is called *Khali* (Empty) when moderate in the above two qualities it is called *Muthavasith-ul-Ruthubath.* A full pulse shows the presence of fluids and an empty pulse their want and Moderate their moderation.

VIII. **Condition of the Pulse**—(*Ha-laath-ae-Nabz*) when the pulse does not alter with a change in the environment then it is called Persistent (*Musthavi*) whereas if it keeps altering it is called Irregular (*Mukhthalif*).

IX. **Nature of the Irregularity**—(*Inthezam-ae-Nabz*) if a pulse be constant in its irregularity then it is called regularly irregular (*Mukhtha-lif-Munthazim*).

The cause of pulse being irregular is the presence of excessive matter which can give strength intermittently or it is due to weakness by which regularity is lost. When both these factors are acting side by side and intensely then the pulse is

not only irregular but the irregularity also becomes irregular *i.e.* It becomes "irregularly irregular", (*Mukhthalif Ghyer-ae-Munthazim*).

X. **Weight of the Movement**—(*Vazan-ae-Harkath*) it does not mean weight in pounds but an inference relative to the previous nine points or the relation of a child's pulse to that of an adult or an old man. The pulse is said to be of (1) good weight *Hasan-ul-vazan* when its qualities compared to the individual's age, the season, country etc., happen to be adequate. An opposite pulse to the above *i.e.*, inadequate in its qualities compared to the individual's age, season of the year and climate of that part etc., is called (2) Pulse of Low weight (*Suyull-Vazan.*) The low weight pulse has three modifications (a) *Mujavi-Zul-Vazan*, (Advanced weight) when the pulse is adequate to its relation with climate and country but is of advanced age *e.g.*, a child's pulse may be like that of an adult or that of an adult may appear as that of an old man (b) *Mubain-ul-vazan* (distant weight) pulse resembles that of a distant age viz., a child's pulse resembling that of an old man or an old man's pulse resembling that of a child. (c) *Kharij-ul-vazan* (outside weight). This is an indifferent pulse which cannot be related to age, climate or the country as in the previous two. This is a very bad pulse.

There are eighteen complex varieties.

1. Great Pulse which is long, high and broad.

2. Low Pulse which is short, low and narrow.

3. **Moderate** in Length, height and breadth. This shows a moderation of all the four humours.

4. **Thick Pulse** is that which is broad and high. This shows the presence of a hot and moist humour *i.e.*, *Khoon*.

5. **Depressed Pulse** is that which is low and narrow. This shows the presence of cold and dry humour *i.e.*, *Souda*.

6. **Moderate in height and breadth only.** It may be long or short. When it is Long it shows predominance of *Balgham*, *Khoon* and *Souda* remaining normal If it is Short then *Safra* is the predominant humour, *Khoon* and *Souda* remaining normal.

7. **Rapid like the deer**—(*Nabz-ae-Ghazalee*) this is short, broad and jumping pulse and is very rapid. This results in

fevers that are due to hot humours (*khoon* and *safra*). In individuals of hot temperament this may occur after severe exercise.

8. **Repeating like the wave**—(*Nabz-ae-Moujee*) in this pulse both the duration of pulse and as well the rest period are increased. This indicates either a very cold and moist temperament or ascites or pleurisy or paralysis due to *Balgham*.

9. **Slow like earth worm**—(*Nabz-ae-Doodi*) this pulse indicates extreme weakness of vital energy.

10. **Slow like the movement of the ant**—(*Nabz-ae-Nambli*) this is a very slow pulse, generally the prognosis of this pulse is bad.

11. **Continuously repeating as the teeth of the saw**—(*Nabz-ae-minsharee*) this is rapid first and becomes quick and hard later. This indicates inflammation of internal organs or inflammation due to some hot humour.

12. **A Contracted Pulse**—(*Nabz-ae-Muslee*) (a) when felt this pulse will be contracted first and it becomes broad or (b) is seen broad first and then it becomes narrow or (c) Narrow in the beginning and in the end and broad in the middle. This group of pulse indicates extreme weakness of the body and loss of vital energy.

13. **A Slow Pulse which appears like a rat's tail**—(*Nabz-ae-Zanabul-far*) a low pulse which gradually becomes great within 20-25 strokes or vice versa and after it takes either its original form or some other phase.

14. **Pulse whose beats resemble the beats of Hammer**—(*Nabz-ae-Mithrikhi*) after a beat before complete relaxation another beat is felt, just like a smith when he strikes at the metal the hammer automatically rises and falls giving a lighter stroke. This indicates weakness and exhaustion.

15. **Pulse that Stays**—(*Nabz-ae-Zool-Fithra*) is that pulse where when a beat is expected a pause is seen and vice versa *i.e.*, beats are missed. Indicates weakness of vital powers.

16. **Pulse that has added Beats**—(*Nabz-ae-vakhi-filvasth*) in this kind beats are felt even in the duration of rest,

The difference between (14) *Nabz-ae-Mithrikhi* and (16) *Nabz-ae-Vakhi-filvasth* is that in the former the commencement of second beat is before complete relaxation *i.e.* it is not during rest, whereas in the latter the beat occurs during the period of rest.

17. **A Shivering Pulse**—(*Nabz-ae-Murtha-ash*).

18. **A Contiguous Pulse**—(*Nabz-ae-Multavi*) indicates extreme weakness and exhaustion and occur only very near death.

2. URINE—(Kharura)

Urine is the thin liquid excreta separated by the Kidneys, temporarily stored in the bladder (*Masana*) reaching it by the two potential tubes known as (*Halibain*) Ureters and is expelled by way of Urethra (*Majari-ae-bole*).

When blood goes to the Kidneys some thin matter (*Movad*) and water (*Maye-yath*) is absorbed by the kidneys and this flows to the bladder as urine. In an average adult during a day (24 hours) about 1¼ seer (liquid measure 9 ollocks-36 ounces) of urine is excreted.

Factors that stand witness (*Ajnass-ae-Adila*) in the varieties of urine indicating different body conditions are seven in number (i) Colour. (ii) Consistency. (iii) Transparency or turbidity. (iv) Smell. (v) Foam or froth. (vi) Sediments. (vii) Quantity.

Urine for examination is taken after a moderate sleep of 6 hours, early in the morning in a clean transparent colourless vessel. Food, drinks or medicine that colours the urine should not have been taken overnight such as Saffron, Alcohol, Henna etc. Normal colour of urine is yellowish or **Ambar** pale.

I. COLOUR

The main colours of urine, generally found are :—

(1) Yellow or ambar pale (2) Red (3) Green (4) Black and (5) White. Their different shades will be discussed below.

1. **Yellow**—(*Asfer*) has six shades (i) straw coloured (*Thibni*) (ii) Citron coloured (*Uth-rajee*) (iii) Bright yellow

(*Ash-kher*). (iv) Organge coloured (*Naranjee*) (v) Fire coloured (*Naree*) (vi) Saffron coloured (*Ahmer Nasai*). **Each indicates** gradually increasing amounts of heat (*Hararath*).

(i) **Straw coloured**—(*Thibni*) is the colour of dried straw or colour of the washings of dry straw. This kind of urine is seen among women and children and is normal to them. When the cosistency and sediments become abnormal this colour indicates defective digestion.

(ii) **Citron coloured**—(*Uth-rajee*) this is the colour of the covering of citron. When found in disease, the disease will be resistant and if found in health it shows good health with resistance to disease.

(iii) **Bright yellow**—(*Ash-kher*) this urine which may be slightly red shows excessive heat. This is normal colour in hot countries or during hot season. This is seen during fever among people of *Safravi* temperament (hot and dry); when there has been no sleep during night and among the alcoholics. This urine when found in fever and if blackish it indicates Malaria—intermittent fevers.

(iv) **Orange Coloured**—(*Naranjee*) this is bright, reddish yellow urine like the colour of the coverings of orange. This urine indicates *Safravi* fevers (hot and dry). Urine after coitus is very much of this colour.

(v) **Fire Coloured**—(*Naree*) this is bright red like the flame. This indicates excessive heat in the system. In *Sarsam* (Meningitis) and *Taph-ae-Mohrikha* (Typhoid) this colour of urine is seen.

(vi) **Saffron Coloured**—(*Ahmar-Nasai*) this urine is red and bright like saffron. When this colour is blackish it indicates Jaundice. Generally this is seen in some form of *Sarsam* (meningitis) and *Taph-ae-Mohrikha* (typhoid).

Colour of the children's urine is not reliable but if it becomes suddenly greenish it indicates the coming of convulsions.

The urine of human beings appears thin and transparent when at a distance and thick and translucent when near. The opposite is true of urine of animals; in addition they will be frothy with strong smell.

2. **Red**—(*Ahmar*) has four shades (i) whitish red. (*Ashab*) (ii) Rose coloured (*Vardy*) (iii) Deepred with black tinge (*Ahmer-khani*) (iv) Blackish red (*Ahmer-akh-thum*). All these show either excess of *Khoon* or heat (*Hararath*) in the system.

(i) **Whitish Red**—(*Ashab*) this is the colour of the covering of onions. This kind of urine indicates slight internal haemorrhage or minute ulcers in the kidney.

(ii) **Rose coloured urine**—(*Vardy*) is generally seen in ulcers of internal organs particularly the kidney. This is also seen in certain stages of Gonorrhoea.

(iii) **Deep red with a black tinge**—(*Ahmar Khani*) this is a thick red urine which is not bright. This urine—is seen in certain stages of Gonorrhoea, Syphilis, in inflammations of liver and in acute ulcers of the kidney.

(iv) **Blackish red**—(*Ahmar-akh-thum*) this is a deep blackish red and thick urine. It indicates all the conditions of the previous variety and also the weakness of liver and kidney. If the urine is red and thin in consistency it indicates that the disease will not be easily amenable to treatment.

Sometimes red urine is also seen in diseases of cold temperament *e.g.* Paralysis, dropsy and intestinal colic (*Khulanj*). When there is disease in any region, *Thabeeyath* goes to it along with the humours and brings about the necessary corrective changes. When *Thabeeyath* withdraws itself then the abnormal heat of these humours is excreted so urine appears red. These humours may also cause inflammation or abscess in the diseased organ and as it resolves the urine becomes red. This also indicates loss of 'power of distinction' of the kidney which leads to incomplete separation of water from blood thus it comes by the urine. Urine may also become red due to severe pain in the organs near kidney, bladder etc.

Fire coloured urine shows more of heat than the red urine. The colour of fire is due to excess of *safra* which is more hot than *khoon* and is also dry in temperament whereas redness is due to excess of *Khoon*.

3. **Green**—(*Akh-ser*) this urine is seen generally in four shades (i) Yellowish green (*Fistha-khi*). (ii) Bluish green (*Nelanjee*). These two occur due to cold and indicate that the

bad matter will not resolve easily. When these two colours are seen in urine of children then they indicate the coming of convulsions. (iii) Blackish green (*Kurasi*). (iv) Copper Sulphate colour (*Zangari*). The last two colours occur due to burning of humours by excessive heat.

(i) **Yellowish Green**—(*Fisthakhi*) this indicates immature *Soudavi* cold matter in excess in the system and also susceptibility of the body to cold.

(ii) **Bluish Green**—(*Neelanjee*) in its extreme form it resembles a solution of methylene blue (*neel*). This form is seen in lepers and severe *Soudavi* diseases. When light it indicates defective digestion and presence of *Soudavi* matter.

(iii) **Blackish Green**—(*Kurasi*) this colour indicates the burning of humours and excessive abnormal heat in the system. This indicates the coming of convulsions in all ages.

(iv) **Copper Sulphate Colour**—(*Zangari*) this is a highly dangerous urine resulting very near death. This shows extreme burning of the humours or poisoning. It also indicates the coming of convulsions.

4. **Black**—(*Asvad*) this urine results due to excessive heat completely burniug the humour or excessive cold by which matter gets accumulated. In the first condition the black urine will be with a yellow tinge and sharp odour whereas in the second it will be bluish without smell or shining. Some times when the *Soudavi* matter is excreted the urine may become black as is seen in *Bohran* of *Soudavi* diseases. Some times urine becomes black due to the use of certain articles of diet or drink.

Black urine may result after the urine has remained yellow, Red, Green or White. Black urine is generally seen among lepers. This is also seen when the chronic inflammation of liver and spleen resolves. This is sometimes seen in patients suffering from chronic Malaria or Kala-azar.

Black urine is also seen due to :—

(*a*) Anything that will blacken the urine *e.g.*, black wine. This indicates that the powers of liver are weak. Some times due to excess of alcohol urine becomes black.

(*b*) Diuretics used for excretion of *Souda.*

(*c*) Humours that have burnt and it is accompanied with burning sensation all over the body. If a black urine be highly yellow it shows presence of Jaundice.

(*d*) Black urine results during 'Crisis' or by the use of corrective drugs or when chronic matter is being resolved.

Black urine among women and old people is dangerous When a black urine contains black sediments it is very dangerous. In women it may appear black due to mixture with menstrual blood, so when the urine of a woman is black ascertain this.

In an acute hot disease when a red cloud like thing is seen in the black urine at the top, it indicates some hot inflammation in the brain which is of bad prognosis.

A black thin urine when becomes yellow and thick and no signs of recovery are seen then it indicates either obstruction in the liver or multiple abscesses in the body.

In pleurisy and Asthma black urine is the sign of death.

In Jaundice if the black urine becomes red and thick it indicates that the obstructions have been resolved and the patient will recover soon.

In an apparently healthy individual when the urine remains black for a long time it indicates that stone is being formed in the kidney.

5. **White**—(*Abyaz*) this urine is of two varieties. (i) **Clear or Transparent** (*Abyaz-Mushif*), this is wrongly called white. This is absence of colour. This kind of urine indicates that the resolution of unnecessary matter is failing *i.e.*, maturation of *Madda* (matter) is not taking place, so water comes out as such. This may also be due to the failure of the power of kidney which does not excrete that matter which is responsible for colour. (ii) **Milk white** (*Abyaz Hakh-khikhi*). This indicates the presence of *Brudath, Balgham* or resolution of fat or involution of *Aza-ae-Aslia* (kingly organs). This is of nine varieties.

(*a*) **White and thick**—(*Mukhathi*) like mucous. This is not seen often. This indicates excessive immature *Balgham.*

(*b*) **White and thin like muscle fat**—(*Ihali*) this results due to the resolution of *Balgham* and fat. This is seen some times in early stages of tuberculosis or when there is excessive *Balgham* in the body. This urine may be thick but its sediments do not settle down.

(*c*) **Oily white**—(*Dasmi*) this urine is generally less in quantity and is generally seen in 2nd or 3rd stage of tuberculosis. Some times urine becomes oily white due to the resolution of thick fat as happens in hot diabetes. In this condition urine is thin. Oily white urine may also result due to resolution of *Aza-ae-Aslia*.

(*d*) **Milky**—(*Labni*) white urine occurs due to excessive *Balgham* or due to resolution of some matter. If due to resolutions of a fatty matter then it will be oily. This kind of urine oily and milky is dangerous in hot disease.

(*e*) **Chyle like**—(*Kailoosee*) urine may sometimes be yellowish due to *Balgham* or resolution of some cold matter. If due to resolution of a fatty matter then it will be oily. This kind of urine indicates defective digestion and may also result due to obstructions in the mesenteric veins.

(*f*) **Like white liquor**—(*Fukhayee*) this is yellowish white urine. This indicates ulcers in the urinary passages or Gonorrhoea. Sediments in this urine are flat and broad and settle down easily. This urine is generally turbid. Some times this urine results due to resolution of immature matter or after expulsion of stone from the bladder.

(*g*) **White like white of an egg**—(*Zulali*) this is a whitish urine which is thick at the bottom. This kind of urine indicates weakness of the kidney, liver and dropsy.

(*h*) **White and thick like semen**—(*Shabeeh-ba-Mani*) this kind of urine may result due to three causes. (1) Resolution of thick white matter in crisis. (2) When correctives are used in diseases due to *Balgham*. (3) When there is excessive immature matter in tbe body (without there being any disease) if urine becomes like this, then it shows that the individual will suffer either from coma or paralysis or epilepsy or convulsions.

(*i*) **Blakish white**—(*like lead*) and bright, indicates the presence of *Balgham* and cold in the system.

If white thin urine is seen during the period of increase of fever it indicates the presence of inflammation in the organs of the lower half of the body.

In acute and hot fevers if the colour changes to any shade of white it indicates that either *Safra* has gone up to the head which may cause inflammation of that part or it has remained in intestines which will cause diarrhoea.

In an acute fever when the urine remains thin in the beginning and suddenly becomes white it shows that it will cause mental disturbances. If a white urine is frothy and a yellow cloud like thing be present then it is dangerous.

In an apparently healthy man when the urine remains white for a long time then it shows that the body contains plenty of immature matter.

In acute fevers the white and thin urine like muscle fat when becomes thick, yellow and bright like olive oil, it is dangerous. Even if the patient recovers he will suffer from tuberculosis.

Sometimes the white urine indicates both heat or cold in the system. Hence the following facts must be considered when observing a white urine.

The white urine that is bright with plenty of sediments indicates presence of *Balgham*.

The white urine which is yellowish, bright, oily and with few sediments that do not settle indicates presence of heat in the system.

White urine in an otherwise healthy individual indicates ulcers in the intestines. Sometimes white urine may get some shade due to burning or putrefaction taking place in the humours. It may become blackish reddish or yellowish as happens in Jaundice.

Some times when plenty of water is taken after food the urine becomes white within an hour or two. It again becomes yellowish after liver digestion (5 to 6 hours later). Rarely due to want of sleep urine becomes white as a result of defective maturation and admixture of chyle.

In acute hot diseases it is better for the urine to be red than white.

In diseases due to *Balgham* a white urine is better than a transparent one.

A red urine indicating blood is better than one indicating *Safra* in the system.

In diseases of the kidneys a red urine is a bad sign, as it indicates a hot inflammation.

In any acute condition when the urine becomes red with headache, it shows inflammation in the brain. If there be no good signs along with it, it is a fatal sign.

In any acute condition if the urine happens to be red from the beginning and continues te be red without sediments it indicates hot inflammation in the kidneys and is a serious sign. When a red urine is turbid it indicates weakness of liver and loss of vital heat.

COMPOUND COLOURS

1. **Urine like muscle wash**—(*Ghusali*). This urine is like the watery portion of blood (Serum like). It is generally seen when the kidney or the liver are weak. If the individual be weak with defective digestion urine of this colour indicates ulcers in the kidney. Some times this urine indicates excess of blood in the system.

2. **Urine like olive oil**—(*Zaithi*). Some times urine may be slightly red or green or yellow and is bright and oily like olive oil. This indicates internal inflammation. Some times it shows that excess of blood and fat are being resolved in a crisis. If such a urine is seen in crisis of a disease the patient will recover.

If this urine be very bright, oily with bad odour and sediments like particles of flesh and small in quantity it is a bad sign.

Generally this kind of urine is seen in pulmonary tuberculosis, ascites and intestinal colic.

If a black urine changes to olive oil colour then it is a sign of recovery.

If in an acute condition olive coloured urine is seen on the 7th day then it indicates that the patient will die within 7 days.

Olive oil coloured urine is some times oily throughout or its upper part only. Some times a urine is called olive oil urine (*Zaithi*) simply for its colour. This is the colour of urine in pulmonary tuberculosis particularly in the later stages. Some times a urine is called olive oil urine either for its colour or for its colour and consistency, as is seen in diseases of the kidney.

3. **A colour compound of red, green and black**—(*Arjavani*). This indicates an admixture of *Souda* and *Safra* and is a bad sign.

4. **A colour combination of black and red**—(*Humri*). This indicates the individual was suffering from complex fever but if the urine be red and is blackish on the top then it shows presence of pleurisy.

Signs of crisis.—If the urine becomes red on the 'fourth day' of the disease then the crisis will occur on the 'seventh day'. If the urine becomes red on the '7th day' the crisis will occur on the "14th day'. If the urine becomes red on "11th or 14th day' crisis will occur on '17th or 20th day' and if the urine becomes red on "20th day' the crisis will fall on '40th day'.

II. CONSISTENCY—(*Khawam*)

Consistency of the urine depends upon the nature and the amount of matter excreted. For the sake of description consistency is said to be (1) Thin. (2) Thick and (3) Moderate. There is no distinct line of demarcation between them. The physician ascertains their relative values by practice.

1. Thin—(*Rakheekh*) urine indicates the absence of the maturation of the *Madda* (matter). In children urine of thin consistency is a bad sign. Absence of maturation leads to the formation of obstruction, so thin consistency also indicates presence of *Sudda* (obstruction). Urine may also become thin due to taking of large quantities of water.

Thin urine can be seen in every stage of a disease when the matter has not matured (*Nuzj*). This shows either the excretory vessels of the kidney have become inactive such that the watery portion alone is excreted or the individual is of a cold temperament as in the old people or children. If there be dryness in the body the urine will be bluish and the individual will be weak and thin.

Thin urine in acute conditions may be a sign of defective digestion or absence of maturity of humours (*Nuzj*). In chronic diseases if the urine remains thin it shows that the powers of the diseased kidneys and liver have become weak. Continued thin urine in children is a bad sign. If in adult the urine continues to be thin, this shows presence of heat in the system and weakness of powers. This also suggests a possibility of an abscess occurring in the posterior portion of the liver.

In a healthy individual when pain comes on in one part and the urine becomes thin it shows that, that part will get inflammed.

When in a thin urine reddish floating sediments appear it indicates fatigue or exhaustion.

In a thin urine, appearance of husk like sediments without there being a disease of the bladder, shows that *Balgham* has been burnt.

Yellowish thin urine if it becomes thick and whitish in an acute fever and later it becomes turbid and the patient passes it unconsciously and if the patient be restless it indicates the coming of convulsions which would prove fatal.

In acute conditions if the urine remains thin and red sediments are present either in the upper layer or in the middle it indicates that some mental complication will occur and if this urine persists it is a bad sign.

In acute conditions if the urine continues to be thin and black for some days and there is pain in the head and kindey, mental complications will ensue.

If a patient passing thin and black urine expresses a desire for his usual food, it is a bad sign and he may die.

If the urine remains thin with pain all over the body then some eruptions will occur *e.g.*, small pox etc.

When the urine becomes thin in the crisis of a disease it indicates that epistaxis will occur.

A black and thin urine when suddenly becomes yellow and thick, indicates that a relapse will occur or that the patient will suffer from Jaundice or his body is over heated.

2. **Thick**—(*Ghaleez*) urine may be due to excretion of unmaturated matter or the presence of such matter which even after maturation is not rendered thin like the normal urine. The distinction between the two is that whether it occurs after treatment or before. If it is thick without treatment then it is absence of maturation whilst the other is due to induced maturation which is not sufficient to make the urine normal in its consistency. Very thick urine indicates the resolution of chronic inflammation or humours of thick consistency are being matured and excreted (in the last condition the urine ought to be thin in the beginning).

In acute condition a thick urine indicates a deep rooted defect. If the urine continues to be thick for a long time it shows that there is a large amount of immature abnormal matter in the system. In people who have suffered from urethritis the urine may be thick. Thick urine sometimes shows defective digestion. Such kind of thick urine whose sediments settle down early shows weakness of powers.

The thick urine which is excreted in small quantities shows the presence of large quantities of humours or weak powers or both.

Thin urine in an acute condition, when becomes thick without signs of recovery, then it shows that wasting of the organs has begun.

A thick urine which becomes thicker on resting shows wasting, this happens in tuberculosis.

If the urine be thin while it is stirred and becomes thick on resting it shows that *Thabeeyath* is trying to mature the matter and very quickly recovery will take place.

In thick urine the quicker the sediments settle the better the degree of maturation,

If the urine remains for a long time as it was excreted then it shows that powers are strong and maturation has been complete. Some times the same kind of urine indicates presence of headache. If with such a urine the powers are weak then it shows the patient will die soon.

The urine that becomes thicker on resting is better than the one that has not changed.

When the powers are weak the urine may become thick. It also becomes thick while the individual is unconscious.

Whatever may be the cause of thickness of urine if it is passed easily and in large quantities it shows that diseases of the order of paralysis will recover. If the urine that was thick for some time becomes gradually thin then, it is a good sign. If it becomes suddenly thin it shows that there is some obstruction to the excretion of matter. If the thick urine that was coming in small quantity becomes thicker, turbid, large in quantity and is passed free by it is a good sign.

A urine, normal in all qualities, be thick and passed freely in large quantity, it is a sign of recovery otherwise a fatal sign.

When the first portion of the urine is like leatherwash and the later portion thick then it shows that the upper portion of the liver is inflammed.

If with a thick urine, there be hard breathing, dry cough and pricking pain in the chest it shows that there was pleurisy which is resolving. In this condition, if the sediments be white and oily then it is a good sign.

When a thick urine putrefies early it shows the presence of large quantities of humour in the body. If in a thick urine the sediments be of the colour of olive oil, it indicates the presence of stone in the bladder.

In a thick urine if the sediments be reddish white flakes or like wheat husk it shows that some inflammation has resolved causing ulceration. If the ulceration be in the bladder the sediments are whitish flakes, whereas if they be from the kidney they are reddish.

If the urine be blackish thick with pain on the left side of the chest it indicates enlargement of spleen. Some times blackish thick urine shows the resolution of obstruction in the liver.

3. **The Moderate Consistency** shows that the necessary maturation is taking place in the body.

III. CLEARNESS OR TURBIDITY OF THE URINE—(*Kudurath-vo-Safa-yee*)

The turbidity or clearness of the urine depends upon the amount of suspended excreta and the consistency of the urine. In urine of normal consistency, turbidity is proportionate to the suspended matter present; absence of this matter is responsible for the clearness. In urine of thick consistency if the suspended matter be less the turbidity will appear to be more.

1. **Clearness of urine** shows the cessation or defective maturation or the absence of the flow of matter.

2. **Turbidity**—The constituents causing the turbidity may appear, (i) when the matter is excreted without maturation and (ii) when the matter is matured and made fit for excretion. The first condition is made out when the urine remains turbid in a weak individual and by the diet alone he does not improve. This shows the weakness of the retentive powers of the tissues and weak power of digestion. The second condition is seen either after treatment begins or the individual changes to a suitable climate.

A turbid urine is that the consistency of which is indifferent and constituents are spread all over.

A turbid urine indicates the weakness of vital powers or when the body is beginning to get strong.

A turbid urine which is like the old wine indicates the presence of pregnancy or the presence of chronic intestinal inflammation.

A turbid urine which appears as that of an animal (without shaking) indicates the excess of abnormal humours. If this urine continues, it indicates the occurring of meningitis due to cold.

The presence of smoke like thing at the bottom of the urine shows that the disease will become chronic. If this smoky thing be present all through the urine and throughout the course of the disease it shows that the disease will take a fatal turn. This smoke indicates that the patient is suffering from Rheumatism.

If the colour of turbid urine is like that of a particular organ in the body and remains persistently of that colour, shows

that the powers of that organ are deteriorating. When the constituents are of different sizes and the constituents of bigger sizes are more it shows that the vital powers have acted sufficiently in the matter and now it is capable of removing the accumulated matter and the passages are also open.

If the turbidity of urine is due to 'star' like bodies, then it shows that the man has cohabited before passing urine.

A turbid urine cannot be thin because for turbidity presence of constituents is essential.

A turbid urine may show weakness of the liver or inflammation of urinary tract.

IV. ODOUR—(*Rahey*)

Normal odour in urine is due to the presence of that excreta which could have caused putrefaction or deterioration of the body fluids.

Absence or less odour in urine indicates absence of maturation due to the presence of cold in the system or the weakness of vital powers.

Sour smell indicates the effect of external heat in cold humours. Sweetish smell shows excess of blood.

During health if the urine becomes odourless it indicates deterioration or putrefaction taking place in the body fluids. If this condition persists for a long period it shows that plenty of putrefiable matter has been created, and the person will suffer with fever due to this cause. If after the excretion of such urine for some time the urine becomes odourless it shows that the degenerating matter has been removed.

In diseases where body fluids are not involved, odourous urine indicates the presence of ulcers in the urinary passage.

If the disease be hot and urine smells sour, then it shows extinction of vital fluids and approach of death.

The odourous urine when becomes odourless and no symptoms of recovery follow, it shows that vital heat has deteriorated and powers have become weak.

A moderate smell indicates a normal maturation of matter.

V. FROTH OR FOAM—(*Zubud*)

The froth in the urine when remains for a long time it shows that the consistency of the matter is thick and is excreted with difficulty.

If the froth be white it indicates the presence of *Balgham*, if yellowish *Safra* and if blackish the presence of fever or jaundice. The froth that results due to the shaking of urine is not reliable.

Presence of large quantities of froth with large bubbles and their delayed settling indicate the presence of thick body fluids immature for excretion. If this be present in kidney disease it is a bad sign ; it indicates that the disease will prolong.

Absence of froth indicates either the fluids are so immature that they cannot be excreted or the powers are so weak that they cannot excrete it.

VI. SEDIMENT—(*Rusoob*)

Sediment is that constituent of urine which is of higher density. The sediment will either be normal or abnormal and either of them will be either floating or suspended or deposited.

Such sediments that are usually seen in urine without any change in health, are white in colour, seen in the lower part uniformly and well mixed, on slight shaking they get uniformly distributed throughout. These may be slightly red or yellow. This kind of sediment indicates complete maturation. Abnormal sediments are of twelve varieties :—

1. **Scaly white**—(*Khurathi*) sediments indicate loss of integrity in the tissues of the kingly organs. If the urine be oily with this kind of scaly sediments then it is due to dissolution of kingly organs.

2. **Scaly black or blackish**—(*Aswad-kamad*) sediments which appear compact indicate kidney ulcers. When these sediments are thin, separate circular concave (like coverings of a hemispherical body) they indicate exfoliation of the internal surface of the bladder.

3. **Powdery**—(*Saveekhi*) sediments red in colour indicate over-heating of the vital fluid of kingly organs when dissolution

is occurring the sediments will become reddish. Powdery sediments indicate possible chronicity and are not of good prognosis.

4. **Fleshy sediments**—(*Lahmi*) when constituents of liver or kidney are involed and over-heated the sediments are fleshy in nature.

5. **Fatty sediments**—(*Dasmi*) when sediments are like particles of small pieces of fat they indicate wasting in the system.

6. **Sediments like pus**—(*Midee*) indicate resolution of inflammation or presence of ulcer in the urinary passage.

7. **Thick slimy sediments**—(*Mukhathi*) indicate weakness of the functions of the glands particularly liver. If such sediment be seen among Rheumatic and the Gouty it indicates that they are easily amenable to treatment.

8. **Hairy sediments**—(*Sha-a-ree*) indicate excessive nocturnal emissions and spermatorrhea.

9. **Yellow sediments**—(*Ash-kher*) of whatever form they may be, suggest that the humour involved is *Safra.*

10. **Flake like sediments**—(*Khu-shu-ree*) are a severe degree of scales with the same modification (See 1).

11. **Sediments like wheat husk**—(*Nukhli*) indicate inflammation and exfoliation of the surface of the bladder and similar condition of the upper urinary tract.

12. **Urine sediments** are of bad prognosis if they settle down. The severity is worst if they are suspended. If floating they are relatively better.

If the sediments are kept floating or suspended by *Reyah* (Gas) then they are as bad as the settled ones.

Absence of sediments indicate absence of maturation in humours and presence of immature matter in the body.

Normal sediments are in moderate amount in the healthy.

Normal urine of thin people or labourers contain relatively less quantity of sediments. Among the old or those of sedentary habits have larger quantities of sediments.

Sedimentation due to pus must be distinguished from other sediments by its smell. These sediments containing pus get settled as quickly as they get disturbed if there be inflammation prior to it.

VII. QUANTITY—(*Mekhdar*)

The increase in the quantity of urine may be due to (1) when large quantities of water are consumed (2) when bad matter is excreted as occurs in crisis provided the body powers are strong and after such increase the patient should feel well. If the urine is abnormal in other qualities then the increase in quantity is better until all the bad matter is excreted even though the patient may feel weak.

Decrease in the quantity of urine indicates (1) the elimination of fluids by some other channel (perspiration etc.) (2) presence of obstruction in the liver or in the passage of urine or (3) diarrhoea.

Passing of very small quantity of urine when body fluids are not lost by any other channel indicates the coming of dropsy.

When the quantity of urine passed is relatively less it shows weakness of vital powers, excessive elimination even if the water is taken in large quantities. If the small quantity of urine is colourless and thin then it indicates the weakness of the secreting powers of the kidney or weak vital powers.

In acute conditions small quantity of black urine is of the worst prognosis and it shows that body fluids have deteriorated.

Increase in the quantity of urine occurs in :—

(i) Elimination of the fluids due to acute fevers or Tuberculosis or :

(ii) When elimination of accumulated abnormal fluid is induced or :

(iii) When articles of food of cold and moist temperament are used or :

(iv) When one remains in cold water for a long time or roams about in cold weather.

When the increase in quantity is due to dissolution or wasting of organs, the smell will be bad, itching and pricking

sensation will be found all over the body. In acute conditions retention or irregular excretion of urine is a bad sign. If there be headache and perspiration with retention of urine, then convulsions will occur.

3. FAECES—(Baraz)

Faeces is the excreta of the first and second digestion, (stomach and intestinal). Its colour, consistency, quantity and foam in the same modifications as that of urine indicate the variations in bodily states.

I. **Colour**—Normally it should be of a dull flame colour. Its increase towards brightness shows the presence of a large quantity of *Safra* in the system and that the excretary powers are strong and are excreting it. Whereas in Jaundice the amount of *Safra* is more but the excretary powers are weak. If the colour of the faeces is duller than normal it indicates immature combustion of food and presence of cold in the system due to deficient secretion of *Safra*.

The white colour of the faeces shows the presence of *Balgham* or the presence of an obstruction in the passage of *Safra*. This foretells the coming of intestinal colic or Jaundice.

Pus or blood in faeces is due to internal ulceration. People of sedentary habits generally pass with their motion a white slimy substance. This should not be mistaken for pus; there will be no characteristic smell in it. This is a good thing for them for this removes laxity or heaviness of the body. The white slimy fluid is immature *Balgham* which gets accumulated and is excreted by vital powers.

Blackish faeces indicate same conditions as blackish urine *i.e.*, it also occurs due to over burning of humours, or *Soudavi* matter or the excretion of *Souda* or the taking in of some colouring material.

Green faeces when not due to burning of humours indicate presence of immature *Safravi* matter.

II. **Quantity**—(*Mekhdar*) decrease in the normal quantity may be due to:—

(1) Presence of small quantity of excretable matter in food, (2) retention of excreta in the intestines which indicate

the coming of Colic, (3) weakness of expelling power of intestines, (4) hypo-function of liver, (5) blockage of the bile duct.

The quantity of faeces increases due to opposite conditions of those stated above.

III. Consistency—(*Khivam*). The consistency of faeces may be low *i.e.* thinner than usual; due to (1) the weakness of the digestive power (2) obstruction in the mesenteric vessels by which digested fluids are not absorbed towards the liver (3) the weakness of the power of absorbtion of the mesenteric vessels (4) presence of *Nuzla* makes the faeces liquid (5) anything that will make the food pass through intestines too rapidly.

Slimy faeces will occur, (1) when fatty food is taken, (2) when thick humours are excreted, (3) due to resolution of or wasting of organs or matter. When due to the last condition, the patient will become weak and there will be bad odour in faeces.

Dry faeces may be due to (1) elimination of body fluids by other sources, (2) presence of heat in the liver and kidney, (3) the use of such articles of diet that are dry in temperament, (4) when the secretion of large quantities of urine occur by which all the fluids of the intestines are absorbed.

IV. Foam—(*Froth*). In faeces it is due to the presence of *Reyah* (Gas) which gets formed in putrefactive changes.

A normal motion is that (1) which is passed easily (2) whose constituents are alike (3) which is slightly yellow (4) which is of normal consistency (5) whose quantity is moderate—20 tolas (6) comes at intervals regularly at a suitable time, (7) which is moderate in smell, (8) when coming out does not give rise to noises inside or fall out with bursting sound or does not contain foam.

PART II

THEORY OF PRACTICE—(*Juz-ae-Amli*)

This part deals with the theory of the practical side of the subject. The principles dealt with are of a general nature. This part is divided into two sections (i) Hygiene (*Ilm-ae-Hifz-ae Saheth*) which deals with the principles of health and practices that maintain health, (ii) general principles of treatment (*Usool-ae-Ilaj*).

SECTION I

HYGIENE—(*Ilm-ae-Hifz-ae-Saheth*)

The responsibility to maintain 'vital powers and youth' or to give the 'maximum age' to an individual is not included among the duties of a Physician and least of all 'the prevention of death'. Youth and vital powers cannot be maintained for ever. The formation of the body depends on, (i) *Ruthubath-ae-Ghareezi*, (vital fluid) and (ii) *Hararath-ae-Ghareezi* (vital heat). These are present in the male and female and help the formation of the foetus. These two factors have different constituents derived from each sex with which *Hararath-ae-Ghareezi* is associated and without this fluid and heat it cannot be formed. *Hararath-ae-Ghareezi* matures *Ruthubath-ae-Ghareezi* which nourishes and brings about the physiological changes. When this *hararath* acts for a long time in an object the substance acted upon is being used up. When a large quantity of this fluid is lost which is the substance for the effect of *Hararath-ae-Ghareezi—Ruthubath-ae-Ghareezi* too becomes less. Consequently digestion is disturbed and the replacement of the used up organs becomes inefficient and insufficient. As life cannot continue without metabolism this heat is constantly used up as such this heat and digestion progressively deteriorate. The replacement becomes less and less until all the fluid is used up. As such the vital heat gets extinguished. This is called Natural death, the mode of which depends upon the individual's, temperament, powers, and its utilization.

For these reasons the responsibilities of a Physician are (i) to combat external causes that are causative factors of diseases in the body and (ii) to guard every stage of life accordingly.

According to temperament and power one is to be given the benefit of maximum life by preventing excessive use of vital heat and fluids. These responsibilities can be fulfilled by adjustment and moderation of the six necessary provisions (*Asbab-ae-Zarooria*).

In *Asbab* "causes or provisions" page 31, we have discussed these. About **Air** we have discussed fully and the rest will be detailed further.

CHAPTER I

DIET

When health is to be maintained, diet suitable to temperament is to be taken. When the individual is of moderate temperament he should take diet of moderate temperament or diet of opposite temperament suitably corrected. If the individual is of hot temperament then a diet of opposite temperament will be better but he should avoid diet of like temperament. Whereas in disease the diet may be of opposite temperament, preferably of moderate temperament but not of like temperament.

Diet may preferably be of wheat of good quality and flesh of moderately young animals. Vegetables of the soil must be preferred with suitable fruits. Ordinarily medicinal food (*Ghiza-ae-Dawaia*) should be avoided, these should be used only on indication.

When 'medicinal food' has to be taken as diet then these should be mixed in such a way by foods of opposite qualities as will neutralize each other and will be suitable as diet without its extra-temperament that gives it the medicinal value.

In the absence of appetite one should not take food; when there is appetite one should not abstain from taking food for too long a time. In summer one should not take food while it is hot and in winter while it is cold. This does not mean that one must take food in opposite condition of the season but it suggests a moderation. To take food before the previous one is digested is bad. Hasty or prolonged eating of many articles of diet disturbs the controlling powers of the body by the rapidity and variety and thereby the digestion does not get completed in time. In prolonged eating the articles that come first are

in a relatively higher stage of digestion than the subsequent and this lack of uniformity disturbs digestion throughout *i.e.*, humours are in different stages of maturation and replacement suffers. A pleasing diet is better but it should not be taken in large quantities. Taking of salt free diet for a long time reduces the appetite and makes the body idle by creating *Balgham* in the body. Sour diet brings on early senility by causing dryness in the system and is injurious to nerves. Sweet diet diminishes appetite and creates heat in the system. Saltish food creates dryness and makes the body thin.

Therefore it will be seen that the drawbacks of a sweet diet can be overcome by a salt free one etc. Food should not be taken to complete, satisfaction *i.e.*, when there is desire for a little more, food must be left off. This deficiency makes the vital powers to make best use of the ingested food *i.e.*, maximum nutrition is obtained from the food with minimum waste of vital powers. Continued restriction in diet as is done during disease makes the body weak and thin. Every individual should adopt himself for a certain amount of variation. One must be capable of tolerating a little over eating but should not make it a habit for in the long run it creates unmanageable abnormalities. One must be punctual in eating but not sensitive to it *i.e.*, must be capable of starving for a reasonable period.

An individual of *Safravi* temperament (hot and dry) should take diet of cold and moist temperament or a diet which is moderate of all temperaments. One with *Khooni* temperament (hot and moist) should take articles of diet cold in temperament and those that can suppress its irritability. One of *Balgham* type (cold and moist) should take diet of hot temperament and those that will make the consistency of *Balgham* thin; and for *Soudavi* temperament (cold and dry) the diet should be of a hot and moist temperament.

By experience the combination of certain articles has been contra-indicated :—

1. Taking of fish and milk together is said to cause chronic diseases *e.g.*, leprosy, paralysis etc.

2. *Ijasia* which is made with *Aloo-Bukhara* and *Mazra* which is made by heating sour curd, should not be taken together.

3. With a diet containing the constituents of an animal's head, grapes should not be taken.

4. Rice or pomegranate should not be taken with food containing wheat and mutton (*Harusa*).

CHAPTER II

ARTICLES OF DRINK

These may be water, syrup, alcohol etc.

Water—Where water is used from different sources; drinking them together should be avoided. When an individual takes water of one source and if he has to take subsequently water of the other, then he should wait till the first stage of digestion is over (about 2 hours).

Qualities of Water—When water is flowing on a good sandy soil it is of good quality. This water will be free from such dissolved impurities that are injurious to health. When this flow is being disturbed by rocky soil the water will be free from putrefactive changes.

A river that is flowing to the north or west or that which is flowing from a high level to a low level and is away from its source and in addition to all these qualities the water is light and the individual drinking feels it to be sweet and a small quantity of this is sufficient to dilute alcohol (to remove its sharp taste) then this water is of good quality for drinking purposes.

Regarding the soil of the wells and tanks the same is applicable. As the water in the wells does not flow these should be made deep and only then their water is to be used for drinking purposes. Taste and dilution test is same as in the previous. Most of these qualities are present in the water of River Nile.

Spring water may be thick at its source but while it is flowing or is exposed to air for some time it becomes light. Spring water is next in preference to deep wells for drinking purposes. Water from (i) an artificially made channel, (ii) from a well and (iii) water of a saltish soil, are to be used in order of preference to the preceding.

Water is to be taken only when the digestion has begun. If water is taken immediately after food the digestion is prolonged. Drinking of water during meals is very bad. Some people whose *Meda* (stomach) is hot are benefitted by drinking water in the middle. There are others who have a poor appetite and it is stimulated only on drinking of the water. The temperament of this group is dry. This dryness is removed by the water and appetite is restored.

Sudden intake of fluids whether, it be water, alcohol syrup or any fluid on an empty stomach, after work or exercise, after coition, purgation, bath and fruits of cold and moist temperament, is injurious to the body. If thirst be very severe after any of the preceding conditions then very small quantity of water is to be sipped over a long period. This false thirst is due to saltish *Balgham* in the stomach ; the more water is taken the more the thirst increases. It is better to tolerate this thirst a little, for the vital powers will resolve this matter (saltish *Balgham*) very quickly. In such a condition of thirst a small quantity of honey is the best thing ; this being hot in temperament will resolve the matter.

Alcohol—A good alcoholic preparation must be of good flavour and agreeable taste. The consistency must be moderate and regular without any suspended matter in it. When small quantities of these are preserved over long periods there should be no change in any of its qualities. For relative value the longer it takes to deteriorate, the better it is. Thin and clear liquor stimulates easily and their effect is easily lost. Whereas thick and turbid liquors are absorbed slowly and their effect lasts longer.

Sweet liquors make the individuals fat. For the young and for people with hot temperament liquors of white colour are suitable. They should take plenty of water before consuming alcohol whereas for the old people the yellow variety with a small amount of water is to be preferred. When it is desired that liquor should be of nutritional value and if the patient is to put on weight then the red liquors have to be used. For the old people a fair quantity of the liquors may be allowed. For children and young individuals it should not be used. If necessary a very moderate quantity may be given to the young adult.

When liquors are used by an addict it should be after stomach digestion (2 hours) is finished. Its use during or immediately after food is injurious because due to its stimulation, food which is not properly digested is also absorbed consequently the quality of other stages of digestion are also interfered with, thus upsetting the whole metabolic process. A very small quantity given immediately after food (when required) creates a mild stimulation which improves digestion.

One can be allowed to drink as long as he is conscious of sense of well-being and the expression of the face and colour are good. The co-ordination of body movements is not lost and external senses are not disturbed. When these conditions take a reverse then it means the drink has reached the limit of excess. When symptoms of excess appear it is better to make the person vomit.

When the liquor is taken by the addict or the old it is to be taken in small glasses, it should be sipped slowly and the interval between one glass and another must be sufficient to get the previous absorbed. Liquors should be sipped slowly and never drunk suddenly.

The place to indulge in drink must be well decorated. The place should be pleasing to the eye accompanied with pleasing music. There should not be anything that will create fear or uneasiness. While drinking the individual himself must be clean and well dressed. The place should be well lit and spacious, preferably on the side of a river or rivulet. The society should be of friends who are free with one another. A good surrounding is essential to get the benefit of liquor because these stimulate all emotions and if each is not satisfied then that particular sense becomes depressed and its bad effect on the body mars all its benefits.

Benefits of liquors—When used in an indicated manner their effect is two sided :

(i) Its effect on emotion is to create joy and courage and remove depression, feeling of sorrow etc.

(ii) Its effects on the body is to improve the complexion, remove obstruction in the passage of humours and help the excretion of other abnormal fluids, urine, sweat etc.

Effect of liquor on emotions and mental functions is such, that nothing else can be so effective. It creates a sense of joy and well being, strengthens emotions, makes the individual courageous, optimist and broad minded. All factors that cause depression are removed. Hence spirits are indicated in melancholia to counteract the fearful dreams and depression created in this disease. This improves understanding and behaviour ; so people with strong mental faculties by its therapeutic use can maintain them for a longer time. These faculties are not susceptible to its toxic effect but they become sharpened and these people do not show the effect of over dosage early.

All its effects on the body can be obtained with other drugs and medications but they cannot meet its excellent rapid effect though it is short in duration.

Its effect on the skin is to make it look healthy, bright and soft, with its mild heat it increases the vital heat and improves it. It dilutes all accumulated fluids and widens all channels of excretion and removes all the accumulated bad matter. It improves appetite and quality of blood. It matures *Balgham* and makes it thin. It excretes *Safra* by way of kidneys with urine and removes dryness, if present, in the body which is due to *Safra's* dryness. It modifies the temperament of *Souda* ; reduces both its moistness and dryness and finally it removes its excess from the body, whereas when it is taken in excess it creates *Souda*.

Its constant and excessive use causes loss of memory, weakness of other powers of the brain, the nerves and the muscles. Use of large quantities will cause death due to coma (*Khoma*).

Undiluted wines spoil the blood and alter the temperament of brain and liver. Liquors that are fermented for a period of less than six months may cause liver diarrhoea and flatulence.

If liquors be used once in fifteen days in moderate quantity there is no harm because by this mental powers get a kind of relaxation, mild stimulation and rest. In cold seasons or cold countries strong liquors will be tolerable. Things that are taken along with it to change the taste must be avoided as far as possible and the following directions in their intake must be observed.

For people whose temperament is hot, apple, lime juice, citron juice or its syrups can be used. When liquors are given to the tuberculous a compound tablet containing camphor must be given.

For people of the cold bodily temperament a compound of rose petals and sugar candy or dates can be given.

For people of moist bodily temperament fried olive (after moistening it with water and salt) or salted and fried almonds can be used.

Those articles that delay the effect of liquors are almonds particularly the bitter ones. Pieces of bread soaked in soup containing much fat not only delays the effect but do not allow consummation of large quantities. Such articles as bring on the effect of liquors rapidly are (i) *jaiphal* (nutmeg seed) plain or soaked in the liquor, (ii) *saffron* that are soaked in liquor before taking it.

Deodorisers used for liquors are dry *podina* (marshmint) and *darchini* (cinnamoni cortex).

Best diluent for liquour is water: If *Arkh-ae-Gauzuban* be added then it is more refreshing and exhilarating. Sometimes rose water is added with it which strengthens stomach and heart.

Those who become unconscious, are given a very small quantity of the same liquor mixed with stimulating soup.

CHAPTER III

EXERCISE AND REST OF THE BODY

There is no article of food which when taken can completely be converted into body constituents without leaving any excreta; at every stage of digestion some portion of it is absorbed leaving certain excreta. If these are left without removing by proper exercise they go on accumulating until they can cause a disease either by its effect, of (i) Quality (*Kaifiath*), or (ii) Quantity (*Mekhdar*).

Exercise by its effect of quality (heat) in excess causes deterioration giving rise to heat. If the articles of food taken be cold they adjust vital heat by the cold. Its quantitative

effect of excess (fatigue) is that it causes obstruction to the flow of humours and makes the body heavy. It may either end in Oedema or Ascites.

If the excretas (that ought to have been removed by exercise) are removed by drugs then they are injurious to the body. These not only remove the accumulated excreta but also a large quantity of immature humours. As the result of loss of humour the body suffers whereas exercise aids in maturing humour and resolves the excreta.

Hence by suitable exercise the body feels light, a sense of well-being is created and appetite is improved. Joints become firm due to *Vithar* (muscle fibre), *Rebath* (ligaments) and *Asab* (nerves) becoming strong. Thus both temperamental and bodily diseases are prevented by moderate exercise—other necessities being well regulated.

Proper time for exercise is when the food has left the stomach and has been properly digested.

A moderate exercise is that in which the face becomes red and swollen and body begins to perspire. It is excessive when there is profuse sweating.

Exercise to an individual part makes it strong. Similarly moderate and progressive exercise to each of the mental powers makes them strong *e.g.*, one who tries to remember things, gradually develops his memory to a remarkable extent. One who tries to think, his power of detection and inference becomes remarkable.

For every part of the body there is a particular kind of exercise. For the chest mildest exercise is moderately loud reading, beginning it very slowly. When this is done with concentration, respiration remains regular and sufficiently deep. A suitable exercise for hearing is regular hearing of some rhythmic and pleasing sound *e.g.*, music and for sight-reading of finely written matter or seeing pleasing objects or good sceneries.

A moderate amount of horse riding is a good exercise for the full body; without creating much heat it causes the excretion of abnormal fluids, in the form of sweat. For the convalescent when he can tolerate, it is a good exercise, to augment the

progress. The amount of riding either in time or speed be increased to the extent that it does not cause profuse perspiration and fatigue. If it does so then the exercise has become excessive.

A more mild form of general exercise will be *Soljan* (an out door play with a ball) which gives both bodily and mental exercise. As is usual when any individual loses he gets angry and when he wins becomes happy. These alterations of emotions in a society give the individual a control over emotion. The effect of running race is similar. Rowing improves circulation of humours very much and chronic diseases like leprosy etc., may disappear.

A sea voyage in suitable condition is a good exercise for oedema due to cardiac weakness and it may be removed permanently. Sight of the changing conditions in the sea creates different stages of emotion of joy and sorrow which re-adjusts the 'nervous complex' (*Nizam-ae-Asbi*).

Massage—(*Dalak*) is the usual exercise therapeutically advised and commonly adopted by those who cannot indulge in other exercises. Massage is done by a second person under instructions. This is of the following varieties: (i) Rough-massage (*Dalak--ae-Khashan*). This is done by rough hands in moderate amounts, this makes the body fat and red. (ii) Hard massage (*Dalak-ae-Salb*). In this massage pressure is applied on the body. This makes the muscles, weak, lax, hard and tough. (iii) Soft massage (*Dalak-ae-Layeen*) is given with soft hands smoothly which makes hard muscles soft and lax. (iv) Prolonged massage (*Dalak-ae-Kaseer*), *i.e.*, massage is given for a long time. This makes the fat body, thin. (v) Moderate massage (*Dalak-ae-Mouthadil*). This gives strength to the muscles.

The following combination are devised to get all the required effects from the massage.

Possible combinations are as follows :—

1. Rough, hard and moderate... Makes the body fat, red and hard.
2. Rough and moderate ... Makes the body fat, red and of good form.

3. Hard and prolonged	...	Makes the body hard and thin.
4. Hard and moderate	...	Makes the body hard and of good form.
5. Soft and prolonged	...	Makes the body soft, lax and thin.
6. Soft and moderate	...	Makes the body soft and of good form.
7. Rough and hard	...	Makes the body fat, red and of good form.
8. Prolonged, soft and moderate	...	Makes the body fat, red, soft and lax.

First is a triple combination, which is designed to make the individual fat, red and hard. 2, 3, 4 and 7 are exercises designed for men. Exercise 5 is meant for obese women to become thin and No. 6 for average women to keep good form. Rough and hard massage is meant for sturdy and tough people. Soft massage is meant for the moderate class. Indication of massage for a short time or for a long time depends upon the nature of excreta and nature of the individual. If a person be of cold body temperament with large quantity of excreta, duration of exercise must be long.

A moderate massage gives one, an inclination to do exercise. This is called preparatory massage *Dalak-ae-Insthedad*, massage is also given after exercise; this is called *Dalak-ae-Isthedad* Massage can preferably be given after exercise to remove excreta that has come to the surface, and with cessation of exercise it will cool down suddenly causing *Sudda* (obstruction). So massage after exercise keeps the pores open and cools the body gradually.

CHAPTER IV

SLEEP AND AWAKENING

Sleep which is continuous and deep, after the stomach digestion is over, whose duration is moderate, is good.

When going to sleep one should lie down on the right side for some time because the digesting *fluids*

are more here, then he may turn to the left and sleep for the rest of the night. Thus food does not flow very quickly to the intestines. Sufficient time is got for stomach digestion which improves the quality of nutrition along with the rest of the body, digestion also increases. In the latter half of the night he should sleep on the right. This will aid the flow of excreta into the colon (*Kholan*) lying down on the left before getting up controls constipation.

During sleep the vital powers of the body resolve and excrete the abnormal fluids. If any individual who is otherwise healthy when perspires more during sleep it means that there is large quantity of immature and abnormal fluids.

CHAPTER V

EXCRETIONS AND RETENTIONS

Bowels should move regularly. Those who are prone to irregularities must regulate it by taking fatty soups, greens and diet containing lemon juice. Fig is a nice laxative particularly for the old. Constipation should be removed either by suppositories (*Shiyaf*) or light enema (*Hukh-na*). Enema with oil is useful for the old. This removes constipation and lubricates the intestines also.

If the motion be free, frequent, and watery then gummy articles should be used to control them. Articles of diet containing grapes or apple are to be used, fats should be avoided.

Bath and coitus are also sources of excretion. In bath abnormal fluids are removed by way of sweat and vapour and in coition the semen, and this will be detailed below. Semen discharged is an excretion but not abnormal fluid. This is included in excretions because the sense of well being which is felt after an excretion is also obtained after discharge of semen excluding its reproductivity.

Bath—(*Hamam*) the building of a bath should be an old and strong construction. The water used should be of good taste. The place should be spacious and moderately warm. This building consists of three chambers one outside the other. The temperament of the external chamber (1st chamber) should be

cold and moist; of the middle or the 2nd chamber, should be controlled to remain hot and moist and that of the inner or the third chamber must be adjusted to remain hot, enough to cause sweating.

Individuals' taking the bath should not enter the 3rd chamber directly, (hot) but enter there gradually. They should first remain in the external chamber and accommodate themselves to the atmosphere. Then they should enter the middle and after accommodating to its atmosphere, step in to the 3rd or the innermost chamber. Coming out should also be by stages. The maximum time to be spent in each chamber is to be judged according to the strength and tolerance of the individual.

Prolonged stay in the innermost chamber will cause restlessness or unconsciousness. It will create dryness in the system and will cause palpitation of the heart. People of dry temperament can preferably take hot water bath than remain in hot air alone. If moist air bath be desired then the walls of the bath should be sprinkled with water and the floor should be kept dry. This kind of a bath is useful to the tuberculous. Those who are of moist body temperament would better use hot air bath.

In suitable cases of dropsy a good amount of sweating is to be allowed before using water.

As long as the skin is red and looking well duration of bath has not exceeded. When the skin begins to relax and restlessness sets in it denotes that duration of bath has been exceeded. After a bath the body should be well covered particularly so in cold season because sudden exposure to cold is injurious to the body. The wrapping also prevents the sudden cooling of water which is sticking on the skin.

The first chamber is kept cold and moist by having moist screens and walls are constantly sprinkled with water. The second chamber is kept hot and moist by hot water vapours. In the third chamber a fireplace keeps it hot and dry and there will be hot water separate to use if desired and according to indication.

When bath is taken after food the body becomes fat but there is the possibility of obstruction occurring in the passage of

humours. To counteract this, after bath, a compound preparation of vinegar, sugar, lime juice and diuretic seeds called *Sikanjabeen-Buzoori* is to be used.

The body becomes moderately fat when bath is taken after digestion is completed or food is taken immediately after bath. If the bath is taken while the stomach is empty the body becomes thin and its temperament changes to dryness. People who take little or no exercise and are fat should take hot air bath and allow much sweating.

When some part of the body is inflammed and the individual has fever due to putrefactive changes and where the matter has not completely matured a bath is "contra-indicated."

Ablutions (body wash—*Ghusool*) A bath with cold water is refreshing and strengthening. A cold water bath is indicated in those who are of hot body temperament and are robust and young. When the season is hot the bath should be in the afternoon. Children or old adults who are suffering from diarrhoea, indigestion or cold should never take a cold water bath.

Taking of bath in a tank whose soil contains sulphur, helps a great deal in resolving the impure matter, and is of much benefit in chorea and paralysis. Weeping eczema, sciatica, lumbago and joint pains are also benefited.

Coitus—(*Jeema*) The best time for coitus is when the body in relation to all its temperament is moderate when the stomach is neither full nor empty and the digestion is over. If coition results when the stomach is full or the body temperament is hot and moist, it is not so injurious as the one, when the stomach is completely empty and the temperament remains cold and dry.

Coitus should be indulged in when desire for it is strong and impelling. This should have risen without any external stimulus as the thought of beautiful women etc., but due to the presence of large quantity of semen causing desire.

After coitus the individual gets a sense of well being and satisfation, gets sleep which proves refreshing and when he gets up he feels the body powers are moderate. In such individuals coition with suitable interval stimulates the vital powers and stimulates the body for a constructive assimilation of the nutrition taken and anger or pessimism are not seen.

People with cold and dry (*Soudavi*) or hot and dry (*Safravi*) temperament get much benefit by coition. Those who are capable, if they neglect coitus they suffer from, vertigo, dimmed vision, heaviness of body etc.

Excessive coition results in loss of vital powers and nervous debility. Chorea, paralysis and weakness of the vision may result. In sodomy discharge of semen is less, apparently there is less weakness felt but as it is an unnatural way of discharging semen the exertion is great and remote effects are bad.

Old women, very young girls, women when having their periods, women who had no opportunity for coitus for a long time, ill or ugly looking women and old virgins are unsuitable for cohabitation. Coitus with them causes grave injuries to vital powers.

Coitus with an appealing and attractive individual creates a sense of well being and satisfaction; although a large amount of semen is discharged very little weakness is felt. Among all the postures for coition the worst is the man remaining below. In this posture the amount of discharge of semen is less but discharge occurs with difficulty and some remains in the urinary passages. Sometimes it is possible that vulvo-vaginal secretion may find entrance in the male urinary tract which is not desirable. The best posture is the woman remaining under.

Factors that augment the desire for coition are (i) seeing act of coition in animals, (ii) reading of books on sex, (iii) hearing the stories of coition of strong people, (iv) hearing the pleasing tones of women's voice, (v) the act of removing the pubic hair.

Neglect of coitus for a long time suppresses the desire consequently the quantity of semen secreted is less or ceases altogether. To have the discharge done with the hand (masturbation) creates depression which results in reduction of the size of the organ, irritability and desire for coition decreases.

CHAPTER VI

REGULATIONS FOR THE SEASONS

Before coming of Spring venesection should be done and by the emetics the bad matter is to be removed. Such articles as

will lower the heat and suppress the movements of matter should be avoided. All heat creating acts as exercise, bath and drinking of sharp liquor, should be avoided. Food taken should be in small quantity and dilute liquors only are to be taken. The woollen dress worn in this season may preferably contain some cotton.

During **Summer** plenty of rest must be taken and must remain indoors. Articles that will suppress *Safra* and heat should be used. Pomegranate should be prferred among fruits. Such articles that produce heat and dryness should be avoided. Small quantities of food with plenty of fruits of cold and moist temperament are to be taken. Old cotton clothes should be preferred to woollen.

During **Autum** articles of food and drink capable of producing dryness in the body must be avoided. Excessive coitus should not be indulged in. Cold water should not be used for drinking or for ablutions. The head should not be kept open in this season. Large quantities of fruits of moist temperament should not be taken. During this season use of emetics brings on fever. In this season the cold of early morning and the sun's heat in the afternoon are injurious.

During **Winter** thick woollen and heat producing clothes are to be worn. Clothes made of leather may be very hot. People of cold and moist temperament only can bear this climatic condition. Food that is not easily digestible and is capable of giving much energy is to be used. The flesh content of the food may be increased. Spices and strong liquors may be allowed in this season. Use of emetics in this season causes weakness. Strong exercises are useful in this season.

SECTION II

GENERAL PRINCIPLES OF TREATMENT

Treatment comprises : (i) Regulation of six essential provisions. (ii) Use of drugs and (iii) Principles of Treatment.

CHAPTER I

REGULATION OF SIX ESSENTIAL PROVISIONS

Manipulation and adjustment in diet in terms of temperament is same as drugs *i.e.* using of such articles of diet that have an opposite temperament of the disease and avoiding such articles that have a similar temperament because it will augment the disease. Adjustment of the other five essentials is similar.

Further details regarding diet are :—

(i) **Stopping of diet** as is done in (a) crisis of a disease. If diet be given at that time the body powers will be engaged in digestion and the disease will take its course and may take the upper hand. Drugs that are of nutritive value are used during crisis. (b) In intermittent fevers on the date of the fever diet is also stopped for the same reason, and it is said that the processes of digestion may cause restlessness.

(ii) **Diet is reduced**: this is done in the following ways. (a) The **quality** is **reduced**, quantity remaining the same. The nutritive value of this being less the quantity of blood formed is also less. This is done in people who have a moderate appetite, but at the same time have large quantities of matter in the body, (*e.g.* in fat persons). By this kind of food appetite is satisfied quantity being the same and the aim to reduce the quality of food is also gained. As the nutritive value is low accumulation is prevented. Such diet consists of plenty of green vegetables and fruits of low nutritive value. (b) **The quantity is reduced** the **quality** remaining the same. This is done in people whose appetite is low who cannot take the usual quantity and the quality is adjusted to remain the same. (c) **Quality** and **quantity** both are reduced, in people with much reserve and poor appetite. The reduction in quantity gives time to the body for the removal of excess and restores it to normal, this

helps treatment. (d) Quality is increased as the quantity is decreased. This is done in people who have a poor appetite and also are under-fed, or their requirements demand it. (e) Quality is reduced but the quantity is increased. This is done in people who have increased appetite and their requirements are such that they do not require such a quality as will be obtained in that quantity.

(iii) Diet is increased in the following ways (a) Quality and quantity both are increased. When the individual has good appetite and his requirements demand a high quality of food. (b) Same as (d) of (ii) above. (c) Quality remains the same but the quantity is increased. This kind of diet is given when the powers of the individual are such that they can digest a larger quantity but his requirements do not demand a higher quantity. So far as the necessities are concerned the quality remains unaltered. (d) Quality is increased but the quantity remains the same. This is done in people of moderate appetite whose requirements demand an increased quality.

When both the quality and quantity are reduced this is "therapeutical starvation" and increase in both to the requirements of the individual is the best "therapeutic feeding". When both the quality and quantity are increased blood of good quality is produced in large quantity. This is also done in cases of people who are being prepared for strong exercises.

Qualitative and quantitative food may be either easily digestible or digestible with difficulty. Easily digestible food (*latheef*) is used when there is either no time or the powers are weak to carry on the digestion of the usual food, whose power of diffusion is low. Easily digestible and diffusible diet should not be given after the usual diet for its benefit is not obtained fully. In certain cases rich food which is easily digestible is given to calm the irritable minded, which by inducing sleep gives nutrition to the brain.

Diet supports the powers. If large quantities are consumed all powers would be engaged in digestion and in the meantime the disease will take the upper hand. To avoid this diet should be limited to the required minimum.

In diseases where crisis comes on late, diet should not be lowered in the beginning because much reserve power is required

to combat it. So until the final stages of the disease, allowable maximum of high quality is to be given and at the approach of the end it should be restricted to the required minimum because we are sure of the acquired and assimilated energy which can be spent from the reserve.

Diet may be reduced or stopped altogether in diseases which end within four days because the duration is so little that the stored nutrition of the body will be enough. If the body powers are so weak and cannot stand the starvation then necessary diet should be allowed even if it happens to be the day of crisis. All the six essential provision have been dealt with previously (page 31.)

CHAPTER II

USE OF DRUGS

Preliminaries to the use of drugs are three :—

I. The determination of the temperament of the drug because the temperament of the drug used should be opposite of the temperament of the disease.

II. The determination of dosage and the qualitative stages of the drug.

III. Determination of the stages of the diseases.

I. **Determination of the degree of temperament of diet or drug :—**

Diet or drug is said to be of a **moderate** temperament, when it is taken by an individual of normal health, repeatedly and in large quantity and after the metabolic processes produce such effects as are not 'incompatible to health'.

Any diet or drug which does not comply to this rule is 'non-moderate' or of active temperament. The active temperament or the activity of the diet or drug is described in four degrees.

First degree of activity of either diet or drug, is that when it is taken in suitable doses it does not produce any ill effect after metabolic changes in healthy individual. But when taken repeatedly by the same person after metabolic changes it produces such effects that are felt but does not alter temperament of the individual.

Second degree of activity of the diet or drug is that when taken in a slightly increased dose by a normal healthy individual and after metabolic changes produces perceptible changes in the individual, but these do not alter the functions of the organs.

Third degree of activity of diet or drug is that when taken in increased doses or repeatedly by a normal healthy individual; after metabolic changes, produces such effects which interfere with all organs of the system or systems of an individual but are not fatal.

Fourth degree of activity of a diet or drug is that, when it is taken by normal healthy individual, after metabolic changes alters both powers, or potentialities and controllers (*Khuva and Arvah*) and the consequence is generally fatal.

Another way of determining degrees of temperament of diet or drug :—

The body consists of (i) *Arvah* (controller) (ii) cavities like the stomach, (iii) channels like arteries, (iv) Humours, the nutritive fluids of the body (v) *Ruthubath-ae-Sania* (are changed humours that have not attained the form of an organ) which is present in minute spaces around the tissues of the organs.

An article of diet or drug is said to be **moderate** when it is taken repeatedly or in large quantities, after metabolic changes none of the constituents mentioned above are affected. When they show a change in the above mentioned constituents these are said to be **active**.

First degree of activity is that in which an article of diet or drug after metabolic changes cause or shows effect, limited to *Arvah* (controllers) and does not extend more than the cavities and channels (without involving the contents).

Second degree of activity is that in which an article of diet or drug after metabolic changes not only shows its effect in *Arvah* (controllers) but also in Humours.

Third degree of activity is that (in an article of diet or drug) which shows (after metabolic changes) its effect in *Ruthubath-ae-Sania*.

Fourth degree of activity is that in which an article of diet or drug after metabolic changes shows its effect or is so dominant

that they interfere with the functions of organs. This abnormality is so severe that it is generally fatal.

The two systems of determining the temperaments have their own usefulness both in the use of drugs and noting the progress.

The quantity (dose) of diet or drug to be given depends on the following ten points that have been detailed below :—

1. Nature of the organ: four points have to be noted (i) Its temperament. (ii) Structure of the organ whether it is solid, porous or containing cavities or spaces. (iii) Position of the organ whether its position is such that drugs by a particular way can act on it or not. (iv) Powers of the organ, whether it is 'Kingly' with responsible function or secondary next in importance (subordinate to the kingly) with responsible functions or dependent with insignificant responsibility.

(i) The normal temperament of the organ being known when the deviation from it is diagnosed it helps in the administration of drugs of suitable temperaments to combat or neutralise it. (ii) The diagnosis of the deviation from the normal structure of the organ helps in the application of the drug or the diet *i.e.*, if the organ be hard, easily diffusible drugs are used. If cavities are found drugs that will stick up have to be used. (iii) Position of the organ. If the medicine can easily reach the diseased organ then the strength of the drug need be just sufficient to neutralise it. If the disease be deeply situated then strong drugs have to be used which after undergoing changes and modifications can reach it in sufficient quantity and strength to the seat of the disease. (iv) Powers of the organs. In the disease of the organ that is highly sensitive as in the kingly and secondary either very strong or very cold medicines should not be used. When it is desired to resolve the matter in them; along with the resolvent, retentives must also be used. No attempt should be made to resolve the matter at one time.

2. Severity of the disease—According to the severity should be the strength of the drug. Mild drugs have to be used for mild diseases and the strong for the strong ones.

3. Sex—Drugs relatively weak and diet more nutritious are given to women. The quantity is also less than that given to men.

4. **Age**—Children are given smaller doses of drugs of weak temperament except those drugs which the children tolerate better.

5. **Habit**—Syrup made of tamarind is used as laxative in northern India whereas in the south, it is an article of diet. If laxative effect from tamarind is desired naturally the dose has to be very much increased. There are some drugs to which some people are addicted, if the therapeutic effect of such drugs is desired then the dose has to be increased. There are other toxic drugs which are slow in their action. If such drugs are given without enquiring for the habit acute toxic symptoms appear.

6. **Seasons**—The strength of the drug depends on the relation between the individual's temperament with that of disease and season. Supposing in an individual of hot temperament, a disease of hot temperament sets in, in a hot season, then the drug ought to be sufficiently cool to combat the extreme heat in this case.

Susceptibility or resistance to a disease depends on the relation between the individual's temperament and that of the season. It will be seen that during spring people with hot and dry temperament suffer from the severest form of hot and dry diseases. This is treble in both of its qualities, dryness as well as heat. Similar is the case of the people of hot and moist temperament in summer; of cold and moist temperament in autumn, and cold and dry temperament in winter. Next come people of cold and dry and hot and moist temperament (in spring) who suffer respectively by diseases of dry and hot temperament. These temperaments of prevailing diseases of the season (spring) will be dry or hot or a combination of both. People with cold and moist temperament will be free from diseases in this season.

In summer people with hot and dry temperament suffer with diseases that are hot in temperament. It will be seen that this set of diseases is not so severe as that suffered from, by people of hot and dry temperament in spring. So this is a comparatively better season for people of hot and dry temperament. People with cold and dry temperament are free from diseases in this season. People with hot and moist temperament suffer from the severest form of hot and moist diseases. People

with cold and moist temperament are susceptible to moist diseases.

In autumn people with hot and dry temperament are free from diseases. Those with hot and moist temperament suffer from moist diseases and those with cold and dry from diseases of cold temperament. People with cold and moist temperament suffer from severe form of cold and moist diseases.

In winter people with hot and dry temperament suffer from diseases of dry temperament while those of hot and moist are free from diseases. People with cold and dry temperament suffer from the severest form of cold and dry diseases, and those of cold and moist suffer from diseases of cold temperament.

It has to be pointed out here that when spring is merging into summer *i.e.*, when dryness is replaced by moisture people both with hot and dry, and hot and moist temperament will suffer from hot and moist diseases. Similarly when the change is from summer to autumn, people with hot and dry; and hot and moist temperament will suffer from cold and moist diseases. When the change is from autumn to winter people of cold and dry and cold and moist temperament will suffer from cold and dry diseases. When the change is from winter to spring people with cold and dry temperament will suffer from hot and dry diseases.

These rationales that account for the general occurrence of the disease; constellation changes modifying individual temperament and the season and putrefaction occurring inside the body or in the surroundings give rise to a variety of changes which have to be considered on their own merits. Epidemics are due to such changes only.

In view of the seasons and bearing in mind the cause of disease the physician has to judge its temperament and adjust his prescription. The aim should be to give opposite temperament to neutralise as accurately as possible to combat the disease.

7. **Occupation**—Two points have to be noted in recording the occupation of the individual, (i) the possibility of toxaemia resulting in the system as happens among the servants of some physicians who are employed in purifying and preparing toxic drugs, (ii) the resultant temperament, as a washerman who gets

a disease of cold temperament does not respond to mild drugs of hot temperament. In like manner the bearing of the occupation on the disease has to be made out.

8. **Nature of habitat**—The climatic condition of the patient's native place and its relation to the present climate or if the patient be native of the place the result and effect of the climate on the patient *i.e.*, if the disease be of hot temperament in a hot country then the temperament of the drug should be cold enough to neutralize the heat satisfactorily.

9. **Bodily condition**—Very thin people who are of hot and dry temperament will not react to mild drugs of cold and moist temperament. Similarly the fat people will require very strong hot and dry drugs.

10. **Power**—If the patient be very strong, mild drugs and minute dose will not act.

II. **The determination of dosage and qualitative effect of the drug** comprises the subject of Materia Medica which is not dealt here.

III. **Determination of the stage of the disease**—Four stages have been described. (1) Onset, *Ibtheda* (2) Increase *Thazayed* (3) End *Intheha* (4) Decrease or convalescence *Inhethath*. When the physician is called on he should be careful to note the stage to which the disease has reached at the time of his seeing the case.

(i) If the case is seen at the **onset** (*Ibtheda*) the line of treatment adopted is abortive *i.e.*, drugs that re-direct the bad matter to a safer channel are given. This group of drugs is called *Ra-dayath*—those that turn the disease.

(ii) If the case is seen while in **increase** (*Tazayed*) both *Radayath* and *Muhal-lilath*—those that redirect and resolve—are used with the view to abort the immature matter and resolve the mature one.

(iii) If the case is seen in the **end** (*Intheha*) resolvents *Muhal-lilath*—only are used to minimise the period of decrease.

(iv) If the case is seen while the disease is on the **decrease** (*Inhethath*) then *Mubaddilath-ae-Mijaz* (those that change

abnormal temperament to normal) and *Mukhaviath* (tonics) are to be used to reconstruct it to its original state.

Accessory methods of treatment are factors that helps a great deal when added to treatment to give relief to the patient.

(*a*) Making of all such arrangements which will create a sense of well being in the patient.

(*b*) Interview with such individuals whose presence will bring him joy.

(*c*) Presence of individuals whose presence creates shyness but the patient desires it. This refers to nursing by the other sex in a restricted sense. The presence of women friends with male patients is beneficial. It has been observed that a sight of the beloved has brought remarkable cures and also sudden deaths. This depends on the physician's judgment to bring on such interviews.

(*d*) Those who are fond of music or good scents, show remarkable improvement when they are allowed to enjoy these.

(*e*) Change of place or a change in season does also influence, depending upon the suitability or otherwise of the relative temperaments.

(*f*) Change of posture sometimes helps in treatment, *i.e.*, people suffering from lumbago may be asked to stand up without sitting. This process is less painful and the patient feels that he is improving.

CHAPTER III

PRINCIPLES OF TREATMENT

Treatment of Su-ae-mizaj (a disease of temperamental change). This has two stages :—(i) when it is setting in : without involving matter—*Su-ae-Mizaj Sada*, (ii) when it is established *i.e.*, involving matter—*Su-ae-Mizaj Maddi*.

When the disease has established then the treatment is by opposite temperament to neutralize the existing one. Diseases of the cold temperament can be easily controlled in the early stages when the bodily heat is uninfluenced, when late the bodily heat is also influenced and the line of treatment should aim at both. Diseases of 'hot' temperament

cannot be easily controlled in early stages because medication of cold temperament has to neutralize disease (heat) and stimulate bodily heat. When this group becomes chronic the body fluids are dried up. Thus vitality by itself is decreasing at this stage. They are more amenable to cold than heat. At this stage bodily powers should also be maintained.

Dryness can easily be produced in the organs than creating moisture in them as things can be easily and quickly destroyed than they can be constructed.

When a *Su-ae-Mizaj* is setting in, to treat this, two means are used (a) The cause for this temperamental change is removed, (b) Drugs and applications of opposite temperament are used to neutralize it.

When treating (i) a temperamental change 'which has not involved matter'—*Su-ae-Mizaj Sada*, neutralizing the temperament with its opposite is enough. But if this be (ii) a temperamental change 'involving a matter'—*Su-ae-Mizaj-Maddi*, then in addition to controlling the temperaments, maturation, expulsion of unhealthy matter, its reconstruction and reversion of temperament, to normal should also be attended to.

Induction of an excretion when it is desired to induce the excretion of matter whether by way of venesection, purging, vomiting etc., the following ten points have to be considered: (i) Presence of large quantities of injurious matter in an easily removable form is an indication for its removal. When it is not mature enough for excretion, the pre-requisite is induction of its maturation. (ii) The powers of the patient must be strong enough to stand the excretion and fatigue of the induction of excretion. If he is not sufficiently strong, induction of excretion has to be avoided or be so mild or gradual that the strength is not affected. If retention or gradual expulsion of matter is going to be more dangerous than the loss of strength by the induction of excretion, then excretion has to be preferred and strength carefully guarded. (iii) When the temperament is severely hot or dry it shows that fluids are less in quantity. As such, induction of excretion will cause more of heat and dryness in the system. There being no fluids to dilute, very little of the abnormal matter will come out. If the temperament be an 'extreme cold' then the

matter will be thick, so heat has to be induced first to liquify it and then excretion is to be induced. Lastly there must be enough 'normal fluids' in the system and no excretion is to be induced in people whose blood is poor either qualitatively or quantitatively. (iv) Physique—very thin or very fat individual whose health is inconsistent are not fit subjects to stand excretion of matter. (v) Possibility of after effects and the individual's susceptibility to dysentry, diarrhoea or ulceration of the intestines has to be considered. The history of susceptibility is a warning for precaution. (vi) Age—childhood and old age are contra-indications for the induction of excretion. The temperament of old people and children is cold which makes the matter thick and its "complete resolution by heat in this age is 'not' to be desired." (vii) Time—very hot or very cold season is not a good time for excretion for in the former there is absence of fluids and in the latter it is in a thick form. If in these seasons an excretion is essential then fluid should be increased in the body in hot season and resolution induced in cold season before induction of excretion. (viii) Climate of the place. For similar reasons as stated above very cold or very hot countries are not suitable places where excretion of matter can be induced. When necessary the precautions are similar as mentioned in the previous. (ix) Occupation—if the occupation of the individual is such that fluids are excreted by its different channels which causes dryness in the body he is not a good subject for the induction of the excretion. (x) Habit—in an individual who has not taken a purgative at all, if it is desired to excrete the matter by that way then the mild form should be used. Similar modifications are true to other forms of excretions also.

Precautions in the induction of excretion—When inducing an excretion the following eight points are to be borne in mind :

1. To remove the matter causing the abnormal effect either by its quality or quantity.

2. The severity of excretion and the quality of matter to be excreted should be so adjusted as, will be tolerated by the powers of the sufferer. After inducing an excretion there is nothing to fear as long as an excretable matter is being excreted and the patient's powers remain relatively strong. When

weakness is felt and blood is seen (in faeces or vomit) then the excretion must be stopped. If after purgation or vomiting the individual feels thirsty or there is inclination to sleep then it shows that matter has been completely removed.

3. Matter should be removed through that channel towards which it is inclined, *e.g.* when there is a sensation of vomiting emetics have to be given. If there be gurgling noise in the intestines then the matter has to be removed by purgation. There are other conditions of accumulation of matter where a combination of these methods or each of them can be employed in succession. When the accumulation of bad matter is in brain, then as many channels as possible have to be opened consistant with the powers *i.e.*, purgation, diaphoresis, dieuresis, venesection etc.

4. The abnormal matter should be excreted by its usual channel of excretion when normal *e.g.* *Safra* falls on the intestines. Where excretion of abnormal *safra* is desired the most suitable channel is its excretion by this route although it is possible to excrete it by kidneys.

5. When it is desired to direct matter to some other organ before excretion then it should be an organ of less significance. If excretion were to be towards a superior organ then (i) the seriousness of the disease becomes great, (ii) to the physician it becomes more difficult to manage.

6. The organ towards which the matter is directed should have near relation to the affected organ *e.g.*, venesection of the right basilic in liver diseases and left basilic in spleen diseases have been found to be useful.

7. If the re-directed matter is retained by the receiving organ then it should be capable of standing the injury likely to be caused by the stay of that matter.

8. Excretion by whatever way or form it may, should be after maturation of matter only. In chronic diseases maturation is essential whereas in acute it is not so because the acuteness is an attempt by body powers to overcome it and naturally they will be maturing the matter themselves. What is desired is to remove the 'excretable' matter which will help the body powers to act further.

Absorption of matter—*Jazb* (absorption) is different from *Imala* (changing the course) of the matter. In absorption a relatively healthy organ which is in the route of excretion is made to absorb the bad matter from an affected organ as is done in 'cupping' applied to the kidneys in *Khoma* (coma) whereas *Imala* is directing the matter to flow by itself to those organs that can tolerate it. When the whole body is filled with bad matter then absorption by a relatively healthy one is not indicated.

When all the humours have increased in their relative proportion then venesectoin will relieve all the symptoms. If after this any humour shows domination then it has to be treated. When along with the blood, one of the remaining three humours has increased, then that particular humour has to be regulated before venesection. If it is done without regulating the matter the quantity of blood becomes less and amount of dominant humour increases relatively and this is not the proper aim of the treatment. When excretion of humour by venesection is considered, bath should not be done at the same time nor purgative is to be given on the day of venesection but all can be given one after another with sufficient rest period between them.

Sometimes excretions are induced (1) not because the humours are in large quantity but because their quality has been altered or (2) to prepare the individual, to resist the seasonal diseases as a mass prophylaxis or (3) to control the severity of a disease when an individual is expected to get it in the coming season, individual prophylaxis.

In the event an individual dislikes purgatives the other alternative is to make him fast, and sleep for longer hours. This will reduce the quantitative increase of humours and the quality or temperament has to be adjusted by suitable diet or drugs. Sometimes matter is absorbed by the external organs as is done in dropsical patients by making them sleep on sand or burying them up to the neck for a definite time. Sometimes excretion of a humour is done by drugs of the same temperament then it is essential to use a corrective *e.g.*, when *Safra* (hot and dry) is to be expelled 'Scammony' *Sakhmoonia* (hot and dry) is used with 'Chebulic Myrobalans' *Halila-ae-Zard* (cold and dry). This being cold and dry expels *Safra* and modifies its temperament.

Vomiting may set in when a purgative is given, (i) if the patient is suffering from indigestion or possesses an irritable stomach as a result of which he will vomit, or (ii) the constipation is very severe or (iii) the purgative is not agreeable.

Purgation may ensue when emetics are given, (i) when the patient happens to be very hungry or (ii) the patient was already suffering from diarrhoea or dysentry, or (iii) the individual is not used to vomiting. *Safra* can easily be expelled by emetics whereas *Souda* resists. *Balgham* if present in stomach is also excreted.

A purgative drug acts by its power of absorption and it absorbs only that humour which has its temperament *e.g.*, *Sakhmoonia* for *Safra*, *Afthimoon* for *Souda* etc. When a purgative is given and no purgation occurs then the same humour may become aggravated, as a result of the small amount of the purgative acting as a stimulant.

A bath before and after a purgative helps a great deal. The preceding bath removes all matter in the external parts and the one after the purgative removes that which remains and comes to the external parts. Either the precedence or succession of bath to a purgative is not to be in immediate relation but soon after the fatigue of one is over. When a bath is taken soon after a purgative then its action is prevented because much of body fluids are eliminated in the bath. When food is taken immediately after a purgative then the drug is so diluted that it cannot act, thus purgation fails. Those who cannot stand a purgative on an empty stomach or cannot abstain from diet for a long time, a watery extract of malt can be given either before or after a purgative as required. When a mild purgative drug is taken and if the individual sleeps after it then its effect is very much lowered. Sleep after a strong purgative augments its effect. In the last stages of a purgative (mild or strong) sleep has a soothing effect.

When the individual has a dislike to the taste of the drug then *Tarkhoon* may be chewed before to disensitize the taste of the mouth (this drug is very common in Iran and Sheraz). If the smell is disagreeable then he will better close the nostrils before taking the medicine or if he has an inclination to vomit then his arm has to be tightly bandaged and after taking the

medicine something that will retain it, as syrup of pomegranate or apple has to be given.

When a purgative drug is given in a pill form then sufficient quantity of warm water has to be taken after to dissolve it. When the drug has acted sufficiently to modify its action plenty of water has to be taken. When after a purgative pain is felt in the abdomen the patient should be given warm water to sip and made to walk about a little. After purgative's effect is over then a mild astringent to moisten and relax the intestines is given which contains gummy substances of suitable temperament.

After a purgative nutritious food of high quality is to be given in small quantities as the body is free from abnormal humour and desires for nutritious food to build itself. If these are given in a large quantity, stomach which is overworked will send immature food to the liver which will form immature humours and this will cause obstruction in organs that are anxious to absorb food but are too weak to complete digestion.

When any individual takes a purgative and does not purge then two things have to be done. (i) If no otherwise symptoms result, as restlessness, griping, giddiness, thirst etc., then the patient is to be consoled to wait ; there may be delayed action or the next day if no purgation occurs with the effect of the previous, a second purgative is to be given. (ii) If symptoms set in *i.e.*, restlessness, griping, giddiness, thirst etc., then the patient is to be given some mild astringent drug which will set up peristalsis. A glass of warm water is to be tried before the administration of any drug. If this fails then the use of drug is to be resorted to preferably a low enema or suppositories have to be employed. When after the administration of a purgative drug no purging results but cardiac or mental symptoms set in then venesection has to be performed.

When the effect of a purgative becomes severe then he should be kept in bed. Tight bandages should be applied to the arms and legs ; drugs that constipate have to be given orally and a paste of similar drug is to be applied on the abdomen. Diaphorisis has to be induced and the surrounding scented with pleasing scents.

Emesis—A vomit cleanses the stomach and by its effect on the nervous system it improves vision and heaviness of the head

is reduced. In ulceration of the kidney and bladder, dropsy, paralysis, chorea and in chronic diseases like leprosy, vomiting shows improvements. Jaundice is relived considerably by a medicated emesis.

It is advisable for individuals to vomit at least twice a month at suitable intervals but the date and the interval should not be fixed. Excessive vomiting is injurious to stomach and makes it susceptible to the effect of bad matter and excretas. When the vomit is of sour taste it is injurious to teeth, sight and hearing. So precautions must be taken to guard teeth and vision when vomit is sour. If the vomiting is severe then it may cause rupture of some blood vessels, which is known as 'Haemetemesis' *Khy-ud-dum*.

Vomiting is contra-indicated in people (i) with an inflammed throat (ii) whose chest is weak (lungs), (iii) whose neck is narrow, (iv) who have suffered from 'haemoptysis', *Naf-sud-dum* (v) Those who cannot vomit easily.

There are some who eat much and vomit, this brings on premature senility. This makes the individual susceptible to chronic diseases and vomiting may become his habit.

Vomiting or purging is dangerous when (1) the body is free from abnormal humour (2) the individual is constipated (3) when the abdominal organs are weak, (4) when diaphragm is thin.

Best seasons to adopt vomiting as a therapy is summer and spring. Purgatives in summer causes fever and bowels do not move properly because there is not much of fluids in the body. Action of purgative in winter is still slow because the cold does not allow the matter to flow easily outside. Spring being before summer, which resolves matter, strong purgatives need not be given. It is in autumn that strong purgatives have to be used because in winter, (which will succeed it) the matter will get solidified. So strong purgatives are required to remove it as completely as possible.

While vomiting is done eyes have to be blindfolded and a broad bandage applied to the abdomen. Face has to be washed with cold water and some tonic syrup taken after vomiting and bandage should be retained till the fatigue is over and the patient has taken his meal.

S 201